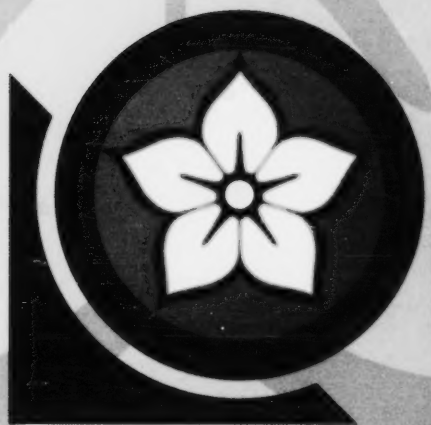
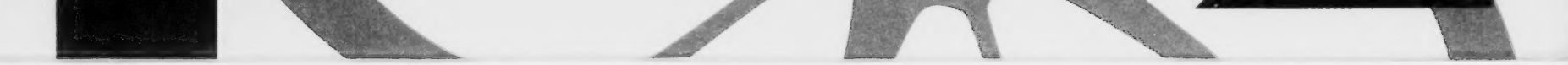
Fit to Drink: Challenges in Providing Safe Drinking Water in British Columbia



Ombudsman

B.C.'s Independent Voice For Fairness

Special Report No. 32, June 2008
to the Legislative Assembly of British Columbia



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Introduction

"To lead the world in sustainable environmental management, with the best air and water quality, and the best fisheries management, bar none."[1]

In British Columbia this strategic direction flows from the highest level of the provincial government. It is reflected in the *Drinking Water Protection Act* and the *Drinking Water Protection Regulation*. Implementation of this commitment is overseen by the Ministry of Health. The Ministry of Environment, the Ministry of Community Services, the Office of the Provincial Health Officer, as well as regional health authorities and public and private water suppliers also play important roles in delivering safe drinking water to British Columbians.

In November 2007, I announced an Ombudsman initiated investigation into the fairness and adequacy of public advisory and complaints processes regarding drinking water safety, with a particular focus on small water systems. This investigation stemmed from a review of complaints this office had received about these issues over several years..

The provincial government's strategic direction is clear. A legislative and regulatory framework has now been in force for nearly five years. A complex, multi-departmental, multi-level implementation process is in place. However, as this report demonstrates, more action is required to ensure the direction, legislation and process deliver the desired results. I am pleased the eight public authorities involved have accepted all the recommendations resulting from our investigation.

I would like to thank the people who contributed to this report. These include public servants who spoke to us about their successes and challenges and health authority staff who demonstrated commitment while acknowledging frustrations. It also includes operators and staff of public and private water suppliers, on whose shoulders much responsibility falls but whose authority is limited. Finally thanks goes to individual British Columbians — water drinkers all — who contacted us with their questions, concerns and complaints.

We have moved as a society from detailed legislation and regulation, frequent monitoring and intensive enforcement towards guidelines, codes of conduct and risk assessments. Today the person who raises questions or concerns — who complains — may well identify a problem no one else has noticed and is an important part of ensuring the process functions effectively. Public authorities at all levels need procedures to track, analyse and ensure appropriate responses to such questions, concerns and complaints because they rely upon them to do their job properly.

Kim J. Carter

Kim Carter
Ombudsman
Province of British Columbia

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[1] Government of British Columbia, *Speech from the Throne*, 12 September 2005, 7 <http://www.leg.bc.ca/38th1st/Throne_Speech_2005_1st_38th.pdf>.

Execu

"Clean drinking water is a vital health priority, and we must ensure that drinking water protection is effective and efficient with no uncertainty. This legislation improves drinking water protection and enhances public health and safety across the province."

Minister of Health Services Colin Hansen, Hansard, 9 October 2002.
<http://www.leg.bc.ca/hansard/37th3rd/h21009p.htm>.

Background [2]

This summary outlines the results of our investigation, which focussed on five areas: how authorities handle complaints; public advisories and notices; monitoring and enforcement; issues relating to small systems and information management. The investigation resulted in 34 findings and 39 recommendations, which are listed at the end of this report. All the recommendations were accepted by the public authorities they were directed towards, although recommendations 16, 16.1, 31 and 32 that relate to small water systems have proved challenging for all the authorities.

The investigation itself has been more complex than most, as it eventually included an examination of the actions of two provincial ministries, the Office of the Provincial Health Officer, and five regional health authorities. This complexity reflects both the nature of the issue and changes in government processes over the past 15 to 20 years. Today a matter often does not fall solely within the jurisdiction of one provincial ministry and the responsibility for monitoring and enforcing standards spreads over different levels of government and multiple public authorities. In the case of drinking water, an examination of only one of the public authorities would be insufficient to identify problem areas and solutions.

In the late 1990s and early 2000s provincial governments across Canada updated and strengthened legislation and regulations designed to ensure the safety of drinking water. As a result of that initiative the *Drinking Water Protection Act (DWPA)* and the *Drinking Water Protection Regulation (DWPR)* came into force in British Columbia in May 2003.

For the past five years the *DWPA* and *DWPR* have regulated all domestic drinking water supply systems in British Columbia, except those serving a single-family residence and specific facilities exempted under the *DWPR*, such as bottled water production facilities.

While water quality standards are the same across the province, the frequency of monitoring that quality varies depending on the number of people who are served by the system. British Columbia imposes only two regular and recurring microbiological water quality tests on all drinking water systems, for E. coli and total coliform bacteria.

The *DWPA* makes the Ministry of Health the lead agency at the provincial level responsible for the administration of the Act. The Ministry of Environment issues water licences and regulates water utilities and water users' communities. The Ministry of Community Services administers grant programs for local governments for drinking water infrastructure improvements.

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[2] See pages 20-25

The provincial health officer's important roles under the *DWPA* include monitoring the actions of drinking water officers, reporting serious risks to safety to the Minister of Health and cabinet when required, and providing an annual report to the Minister of Health on activities under the *DWPA*. The provincial drinking water officer, a non-statutory position, assists the provincial health officer.

Practically speaking, it is the five regional health authorities, Fraser Health Authority, Interior Health Authority, Northern Health Authority, Vancouver Coastal Health Authority and Vancouver Island Health Authority, that administer the *DWPA*. The drinking water officers who work for those regional health authorities grant permits to operate water systems, conduct inspections, act on test results and initiate compliance and enforcement action. Under the *DWPA* and the *DWPR* the drinking water officer has a great deal of discretion.

Ultimately however the *DWPA* puts much of the responsibility for testing, issuing notices and advisories, planning for emergencies and reporting, on the various public, not-for-profit and private water suppliers. It is the water supplier that must ensure that potable water meeting the specified standards is supplied to those using the system. The drinking water officer's role is to make sure this happens and take action if it does not. The provincial health officer's role is to make sure the drinking water officers are complying with provincial directives and guidelines, doing their jobs properly. The role of the Ministry of Health is to ensure the *DWPA* and *DWPR* achieve the goal of ensuring safe drinking water in British Columbia.

Our Investigation [3]

In the nearly five years since the *DWPA* and *DWPR* came into force, our office has received complaints from across B.C. about issues ranging from the length of time boil water advisories have been in place, through questions about the thoroughness of investigations, to issues with the efficacy of enforcement action. These complaints about matters of administration guided what we looked at during this investigation.

Although we have found areas where policies are lacking, processes are inadequate and delay has been unreasonable, this report is not a general indictment of the drinking water protection system that currently exists in British Columbia. The problems we identify however, demonstrate vulnerabilities that need addressing in a timely and coordinated manner to ensure consistency and equality across the province. I am pleased that the eight public authorities have all decided to work together to try to address these deficiencies. I believe this reflects the dedication that public health officials across the province bring to their work.

The acceptance and implementation of the recommendations in this report will result in more, and more reliable, information being available to the public about drinking water quality, better tracking of complaints and identification of recurring problems and a more consistent approach to monitoring compliance with standards. That will, I believe, also assist in providing a firm, factual basis for addressing other issues that people have expressed concern about, ranging from source protection to privatization.

[3] See pages 26-28.

Our investigative process involved looking at past and present legislation, regulations, policies and procedures from different provincial ministries and health authorities. We reviewed health authority documents and files relating to individual water systems. We went out to different parts of the province to meet with public health officials and water suppliers. We toured large and small water supply systems and went along to see how an inspection was actually done. We heard from professional associations, not-for-profit groups and individuals who shared their views and concerns with us throughout the investigation.

Dealing with Questions, Concerns and Complaints[4]

While water suppliers respond to many questions, concerns and complaints, people who are dissatisfied with their response can turn to their regional health authority, the organization under the *DWPA* that is responsible for ensuring water suppliers comply with the rules. We looked at how regional health authorities told people about this option, what processes and policies they had in place to respond to these types of concerns and complaints, and how they tracked and analysed those complaints.

None of the regional health authorities has brochures, fact sheets or other written information available to advise or assist people who want to complain. While the Interior and Northern Health Authorities have general complaints policies, none of the regional health authorities has specific drinking water complaints policies. Only the Vancouver Coastal Health Authority has a complaint form on its website. Fraser Health Authority is testing a water specific complaint form.

When we looked at informal complaints, which are not part of the statutory section 29 *DWPA* complaint process, we found that only one of the five regional health authorities, Fraser Health Authority, could reliably provide us with the number of complaints about drinking water problems they had dealt with between May 16, 2003 and December 31, 2007. That was because those 103 complaints were entered and tracked in an electronic database. Northern Health Authority was able to identify that it dealt with 92 drinking water inquiries and complaints in 2007, but could not provide information for 2003-2006. The other regional health authorities could not provide us with a precise response because they did not consistently enter or track drinking water complaints.[5]

A person who remains dissatisfied with the response of a regional health authority to a drinking water concern or complaint can pursue the matter with the Office of the Provincial Health Officer and with the Ministry of Health. Neither the Office of the Provincial Health Officer, nor the Ministry of Health have a written policy for responding to complaints about drinking water. The Ministry of Health electronically logs all correspondence it receives. It does not, however, have a mechanism to track the number or nature of concerns and complaints it receives about drinking water and the responses provided. The Office of the Provincial Health Officer, which must report annually on the activities under the *DWPA*, does not have a system for tracking all the concerns and complaints that it receives about drinking water.

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[4] See pages 34-48.

[5] See Table 1 — Drinking Water Complaints Processes by Health Authority.

Given the lack of reliable data, it is not possible to evaluate whether these informal complaint mechanisms are effective. I have therefore recommended that the Ministry of Health, the Office of the Provincial Health Officer, and the regional health authorities develop accessible, understandable and consistent written policies on receiving and responding to complaints about drinking water and make those policies publicly available by December 1, 2008. I have also recommended that the Ministry of Health, the Office of the Provincial Health Officer, Interior Health Authority, Northern Health Authority, Vancouver Coastal Health Authority and Vancouver Island Health Authority develop systems to electronically record and track drinking water complaints and generate reports by June 1, 2009. (Recommendations 1.1 and 1.2)

As will be evident throughout this report, our focus has been on practical, effective and achievable progress. We found in this, as in other areas we looked at, one regional health authority already had a process in place that worked. In this situation, the Fraser Health Authority electronically tracked all complaints received and generated reports on them.

Section 29 Requests for Investigation[6]

Section 29 of the *DWPA* specifically provides that any person who believes the safety of their drinking water is threatened can request the drinking water officer in their regional health authority investigate the situation. To do this, a person must set out the factual basis for their concern in writing and provide it to the drinking water officer. The drinking water officer decides whether an investigation will be done, and if an investigation is conducted, must advise the person of the results of that investigation.

What constitutes a threat to drinking water is defined in the *DWPA* as "a condition or thing, or circumstances that may lead to a condition or thing, that may result in drinking water provided by a domestic water system not being potable water." Potable water is water that meets the standards set out in the *DWPR*, usually established through testing, and is safe to drink. Clearly, this definition is very broad and can encompass a number of conditions, things or circumstances.

Section 29 is an important mechanism for both individuals and the officials who are responsible for ensuring that water supply systems are working properly. It is the only statutory mechanism available to people who feel their drinking water safety is threatened. It ensures a person who is empowered under the legislation to take direct and prompt action, the drinking water officer, directly considers their concerns. It appears to have been used rarely over the past five years.

Although, again, not all the regional health authorities could certify the reliability of their numbers as they did not have a single location where numbers were recorded, the number of requests identified as having been received across B.C. by all five health authorities in the past five years is, in total, five.[7] The Interior Health Authority received four requests and the Northern Health Authority one. Each health authority conducted one investigation under section 29.[8]

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[6] See pages 40-44.

[7] See Table 2 — Requests for Investigation Under Section 29 of the *DWPA*.

[8] See Table 2 — Requests for Investigation Under Section 29 of the *DWPA*.

If, in fact one can conclude on only five occasions in the past five years across B.C. has anyone been sufficiently concerned about a threat to their drinking water that they made a request for a section 29 investigation, then that is a good thing. Unfortunately there may be other explanations for the under use of this statutory right. First, the number may be under-reported. Second, people may be unaware of the availability of this option. It is noteworthy that the only regional health authority that provides any written information about section 29 has received four of the five requests for investigation. Third, the standard for engaging a section 29 *DWPA* consideration that is being applied in some cases appears to be much higher than the standard in the *DWPA* itself. In two cases that we reviewed, people asking for an investigation under section 29 were told that one would not be undertaken on the information provided and that if they wanted the matter looked at again, they would have to provide a hydrologist's report at their own expense. Fourth, there appears to be some difficulty in separating an investigation from an inspection. The *Drinking Water Officers' Guide* indicates that this can be a problem and may further complicate the issue by taking the position that section 29 investigation requests can be verbal, which makes them seem more like informal complaints, and not something provided for in the *DWPA*.

I have recommended that by September 1, 2008, the Ministry of Health provide clarification to the regional health authorities about the application of Section 29 of the *DWPA*, including setting out the type of information that might reasonably be required to be considered in order to make a decision on whether or not to investigate a complaint (Recommendation 2). In addition, I have recommended that by December 1, 2008, all the regional health authorities develop written material informing people of the right to request an investigation under section 29 of the *DWPA*, including the type of information to include with the request and also make that information available on their websites (Recommendation 3). Finally, I have recommended that all regional health authorities have an electronic system in place to track the requests for section 29 investigations that they receive, as well as requests for investigation in areas that cannot be actioned (Recommendation 4).

Section 39.1 Requests for Reconsideration and Review[9]

Drinking water officers regularly exercise their discretion and make decisions under the *DWPA* and *DWPR*. However no right of appeal of those decisions to other administrative decision makers or an administrative tribunal is provided for under the Act.[10] There is, in section 39.1 of the *DWPA*, a statutory process to allow for reconsideration or review, but only for certain decisions made under sections 19, 25, 26 and 31(4) of the *DWPA*, such as hazard abatement or compliance orders. The person who can request a reconsideration or review is a person affected by the decision or order and, because of the nature of these decisions, is usually a water supplier.

A request for a reconsideration is made to the same drinking water officer who made the original order and the person making the request must convince that officer there is new information available that would justify a reconsideration. If satisfied, a drinking water officer will conduct the reconsideration and can maintain, vary or reverse the order he or she made. As this is a statutory right of reconsideration, rather than an informal process, and as it is not clear a decision not to conduct a reconsideration can itself be the subject of a review, we have concerns about the same person being required to conduct the reconsideration.

[9] See pages 44-48.

[10] The options of seeking judicial review or making a complaint to the Office of the Ombudsman are available.

Consequently, I have recommended the Ministry of Health take action to ensure that reconsiderations are conducted by a new decision maker by January 1, 2010 (Recommendation 5). I have also recommended that the Ministry of Health consider expanding reconsideration and review to decisions made under other sections of the *DWPA*, in particular to decisions on whether or not to conduct an investigation under section 29 of the *DWPA* (Recommendation 6).

A request for a review is made to the provincial health officer who can uphold, vary or reverse the decision, refer it back to the drinking water officer, or direct a review by a medical health officer.

In British Columbia, in the past five years, there have been no requests for reconsideration or review under section 39.1 of the *DWPA*.[11] This may be explained by the scarcity of orders that could be reconsidered or reviewed. Again, some regional health authorities could not provide us with a specific number of those orders. Based on the information we reviewed, it appears that between 15 and 20 orders under sections 19, 25, 26 and 31(4) of the *DWPA* have been issued over the past five years.

There may be different reasons for this small number of orders being issued under these sections. If a request is made by a drinking water officer and complied with by a water supplier, then no order is issued and no right to request reconsideration or review is available. If a drinking water officer orders a water supplier to provide a public notice under section 14 of the *DWPA*, rather than under section 25 or 26, then there is no right to request reconsideration or review.

Among the orders that have been issued, however, we noticed an inconsistency in informing the recipients of the right to reconsideration and review and in one case the imposition of a deadline for submission, which is not provided for under the *DWPA*.

I have recommended to all the regional health authorities that all orders issued under sections 19, 25, 26 and 31(4) of the *DWPA* be in writing and contain complete information about the right to request reconsideration and review (Recommendation 7).

Public Advisories and Notices[12]

Many people take clean, safe drinking water for granted, so warnings about its safety, issues with its quality, or directions that it should be boiled before it is consumed are taken seriously. People want to know that they will be advised of any problems in a timely and clear manner, especially if they are someone with particular vulnerability as a result of a compromised immune system. However if a water supply system at home, school, the cottage or campsite, has been on a boil water advisory for months or years, the impact and importance of that advisory or notice can wear off over time.

Under the *DWPA*, it is the individual water suppliers who have the first level of responsibility to advise their customers of any drinking water and safety concerns. These concerns may include inadequate treatment, treatment failures, a water sample not meeting the required standard or the contamination of a water source. There are no specific methods they must use to provide notice. Methods range from signs posted at taps, through radio announcements to phone calls, door-to-door visits or e-mails.

[11] See Table 3 — Requests for Reconsideration.

[12] See pages 49-66.

Regional health authorities are responsible for ensuring water suppliers take appropriate action. In addition, if a drinking water officer is advised that a reporting standard has not been met or believes the safety of water in a system is threatened then he or she can request or order the water supplier to advise its customers of this and what precautions they need to take. The drinking water officer can also take the more serious step of issuing a hazard abatement or compliance order and require the water supplier to notify the public.

The most common notice or advisory is a boil water advisory. In addition, water quality advisories may be issued to deal with a variety of situations, from chemical contaminants to dangers related to excessive turbidity. All regional health authorities post boil water advisories on their websites. Regional health authorities serve as an important source of drinking water information for many people. Posting such advisories in a timely fashion contributes positively to public health and also, when accessible from a single source such as the regional health authority website, allows people to compare their situations and evaluate the performance of their system.

Four of the five regional health authorities already post boil water advisories and update them in a timely fashion — ranging from immediately to within 24 hours. In addition, three of the five regional health authorities post water quality advisories on their websites and update them in a timely fashion.[13]

The Interior Health Authority updates its boil water advisories once every three months. I have therefore recommended that the Interior Health Authority update its website information as soon as boil water advisories and water quality advisories are issued or rescinded (Recommendation 8).

I have also recommended that Fraser Health Authority and Northern Health Authority post water quality advisories on their websites (Recommendation 9).

Turbidity and Advisories[14]

One of the most complicated situations that can lead to the posting of a boil water advisory is high turbidity in drinking water. Turbidity describes the relative cloudiness of drinking water. Often there is no exact degree of cloudiness that causes a boil water advisory to be issued by a drinking water officer. Rather a series of factors are evaluated that may include the degree of turbidity (measured in units called NTUs); the source of the water; the source of the turbidity; the type of disinfection system used and the anticipated duration of the high turbidity level.

Across British Columbia regional health authorities have not adopted a common approach to assessing, explaining and imposing boil water advisories for high turbidity situations. In one region it might seem that the standard is five NTUs, while in another it might seem to be 33 or seven NTUs. This lack of clarity leads to confusion among both water suppliers and those drinking water that is, or is not, subject to an advisory. It is not helped by the lack of a written policy in this area in four of the five regional health authorities and no clear provincially endorsed process for what standards and considerations should apply.

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[13] See Table 4 — Health Authority Information about Boil Water and Water Quality Advisories.

[14] See pages 53-57.

The Ministry of Health received a report from a Ministerial Technical Advisory Committee on Turbidity in March 2008. That report concluded from a scientific perspective that there is no one indicator, in all situations, that is sufficient to determine when a water quality advisory should be issued in high turbidity situations. The report recognized that a consistent province wide process could reduce a perception that different processes and criteria are used by different health authorities.

This scientific conclusion is consistent with the conclusion we have drawn from an administrative fairness perspective. Quite simply it should be possible for a standard method to be developed that can apply across the province so that someone who faces a boil water advisory related to turbidity in the Merritt area, or around Smithers, or outside Sechelt, or near Port Alberni, can be confident that the same factors and criteria are being taken into account in their situation as in others. If the number of NTUs does not in itself trigger an advisory, then it is reasonable to expect that there is an explanation as to what does. Consequently I have recommended to the Ministry of Health and the regional health authorities that they work together to establish a standard for issuing advisories that is consistent across the province by December 1, 2008 (Recommendation 10). I have also recommended that Fraser Health Authority, Northern Health Authority, Vancouver Coastal Health Authority and Vancouver Island Health Authority, which do not currently have written policies on turbidity, develop them and make them publicly available by December 1, 2008. This recommendation has also been accepted.

Message Fatigue [15]

One of the challenges that arises with long-standing or frequent warnings is a tendency after a while to start to discount them. This "message fatigue" exists for water advisories as well. We heard throughout our investigation about this danger from water suppliers and from members of the public.

To combat message fatigue, I have recommended that at least once a year, each regional health authority publicly report the total length of time each advisory that has been in force for more than one year within its jurisdiction has been in effect, the steps taken since the last report to remedy the underlying problems that necessitate the advisory, and the corrective action that remains outstanding (Recommendation 12.1). I believe that this will reduce message fatigue by providing new and useful information about the advisory as well as encouraging action to resolve the underlying problem. I have also recommended the same action be taken for regularly recurring advisories that also face the same "message fatigue" effect (Recommendation 12.2).

Communicating the Permanent Province-wide Advisory [16]

In British Columbia there is a province-wide water advisory. In 2001, the provincial health officer re-issued a notice that people with weakened immune systems, including those with HIV infection, organ and bone marrow transplants and people receiving chemotherapy or medications that suppress the immune system, should consider boiling, distilling or filtering drinking water, particularly if it came from unfiltered surface sources. This message was subsequently included and expanded upon by the Ministry of Health in 2003 and

[15] See pages 58-59.
[16] See pages 60-62.

is still current on its website. It states that persons who have weakened immune systems, including people with HIV infection or AIDS; people who have been getting radiation therapy or chemotherapy for cancer; people who have had an organ or bone transplant and are taking anti-rejection drugs; elderly people who may be vulnerable and infants, may wish to take precautions to make sure their drinking water is as safe as possible, including boiling or filtering their water.

The provincial health officer reiterated this message, again in a slightly different form in 2007, explaining that people who "...have HIV/AIDS, are undergoing chemotherapy or have compromised immune systems..." are advised to consider individually boiling, filtering or disinfecting their drinking water.

We looked at how the regional health authorities communicated this message to the targeted populations in their communities. Some had active programs to communicate it to physicians and care facilities. Others were less active. The Fraser Health Authority and Northern Health Authority mention the advisory in press releases about specific boil water advisories and believe that physicians in their region advise their patients as required.

The responsibility for communicating a provincial level water advisory falls on all public authorities engaged in public health protection in the province. Consequently, to ensure communication of this important message to those people who should be informed, I have recommended that the Ministry of Health, Fraser Health Authority and Northern Health Authority establish adequate procedures to ensure that people with compromised or weakened immune systems are notified about the potential health risks associated with drinking water by December 1, 2008 (Recommendation 13.1).

I have also recommended that the provincial health officer review ways of giving his general advisory more prominence and include the procedures regional health authorities have in place to notify people of this in his annual report (Recommendations 13.2 and 14).

Although Interior Health Authority already has an active education program in this regard, some confusion has resulted from its reference to "newborns" in some materials and "children under 12 years of age" in others. I have therefore recommended that the Interior Health Authority clarify which group of children it includes in the group that should take precautions with drinking water (Recommendation 15).

Ending Long-term Advisories [17]

Boil water advisories are designed to be, and usually are, 'temporary fixes' that deal with an immediate problem such as a disinfection failure or turbidity issues. In some cases however they become a substitute for the action needed to resolve the underlying problem. In March 2008 for example, a boil water advisory for a small water supply system on the Sunshine Coast serving approximately 500 people was lifted after being in place for 30 years.

[17] See pages 62-64.

Executive Summary

In August 2001, there were 304 boil water advisories in effect in British Columbia. In November 2003, six months after the *DWPA* and *DWPR* had come into force, there were 393.[18] In May 2008 there were 528.

The regional health authorities believe the increase is not attributable to newer systems, whose operating permits have been approved by the drinking water officers since 2003. Rather these boil water advisories apply to systems that existed prior to 2003 or to systems that have been constructed and operated since that date without the necessary permits. Each of the regional health authorities has taken a number of steps to reduce the systems on water advisories, but all of them explain that they find this very challenging.[19] In part this is because their ultimate tool, ordering a water system to stop distributing water, leads to other public health concerns.

To date the steps taken have not reduced the overall number of systems on long-term advisories. From the perspective of a fair and reasonable resolution to this situation I recommended that the regional health authorities commit to reducing the number of systems on water advisories by 10 per cent a year and to having no systems on an advisory for more than 18 months by the end of the 2011-2012 fiscal year (Recommendation 16).

In order to assist the regional health authorities to achieve the goal of reducing the number of water advisories by 10 per cent each year, I have accepted that any pre-existing water supply systems discovered after May 2008 that have to immediately be put on a water advisory would not be included in these numbers for three years. This will also facilitate the implementation of the recommendation that regional health authorities proactively look for these systems. I have also accepted that it is reasonable that the 10 per cent reduction would be calculated on a declining number each year.

Effectively a 10 per cent reduction each year, starting with 528 as the current number of boil water advisories, would mean that 10 years after the *DWPA* and *DWPR* came into force, 2013, there would be a maximum of 311 boil water advisories in place, with none of them being longer than 18 months.

Given the serious concerns expressed by the regional health authorities about being able to reduce the number of systems on water advisories with the current tools and resources available to them, I have also recommended that the Ministry of Health, which is ultimately responsible for the *Drinking Water Protection Act* and *Drinking Water Protection Regulation*, support the regional health authorities in this goal (Recommendation 16.1).

The Ministry of Health itself indicated that it shares the concerns of the regional health authorities about the challenges of actually getting a number of water systems off water advisories. It is clear that this is a significant issue when all of the public authorities, from the lead provincial ministry down, acknowledge that to achieve a consistent reduction in the number and duration of water advisories might be beyond their current capacity. It must, however, be a priority if water is to be fit to drink, rather than needing to be boiled, filtered or distilled.

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[18] Office of the Provincial Health Officer, *Progress on the Action Plan for Safe Drinking Water in British Columbia* (2006), 5.

[19] See Table 7 — Steps Health Authorities Take to Help Systems End Advisories and responses in Appendix B.

Monitoring and Enforcement [20]

Access to Approved Laboratories [21]

Under the *DWPA* and *DWPR* all water systems must have a certain number of samples analysed each month by a laboratory that has been approved to do this by the provincial health officer. The sample must be taken in an approved fashion and must be delivered to the laboratory within 30 hours from the time it is sampled.

Water suppliers in remote areas face particular challenges in getting their samples in for testing. In part that is due to the handling requirements, in part due to distance and in some cases cost is a factor. While regional health authorities and the British Columbia Centre for Disease Control, which does much of the testing, are working to reduce the cost barriers in a number of cases, the fact remains that there are few approved testing facilities in the northern or interior regions.

I have therefore recommended that the Ministry of Health and the provincial health officer work together over the next year to develop initiatives that will increase the number of approved laboratories in areas where there are unreasonable barriers to cost-effective and timely transportation of water samples for bacteriological analysis (Recommendation 17).

Drinking Water Standards — Required and Discretionary [22]

Drinking water standards, the testing frequency and the systems that must submit to independent testing vary from province to province and territory to territory across Canada. Consequently, it can be difficult to do exact comparisons. However, the *Guidelines for Canadian Drinking Water Quality*, developed by the Federal-Provincial-Territorial Committee on Drinking Water, established testing parameters for approximately 165 microbiological, radiological, physical and chemical substances. The *Guidelines* have been adopted by Alberta and Ontario.[23]

There is a wide divergence in the testing patterns of water supply systems in British Columbia. In 2007, the Capital Regional District (Greater Victoria), a large water supplier, collected 6,856 water samples and tested for approximately 300 different substances. A typical small system on the other hand collects up to 48 samples a year and tests for two substances.

British Columbia currently requires standard testing of water samples for two bacteriological substances — total coliforms and E. coli. These limited parameters are a result of the approach set out in the *DWPA* that allows drinking water officers to impose additional testing for other substances as required by local circumstances. This flexible rather than mandated approach can work successfully when there is a clear, consistent, and rigorous program for identifying which additional substances should be tested for; for conducting those tests; and for addressing any concerns raised by the results.

All regional health authorities advised us that water suppliers are required to conduct testing to ensure compliance with all the chemical substance standards set out in the *Guidelines* when they apply for a permit. In addition, Fraser Health Authority explained it requires water suppliers to repeat this analysis every three years and Northern Health Authority does so every five years.

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[20] See pages 67-86.
[21] See page 68.
[22] See pages 67-74.
[23] See Table 8 — Provincial and Territorial Drinking Water Quality Standards.

The *Drinking Water Officers' Guide* sets out that any additional testing requirements are imposed by a drinking water officer exercising his or her discretion. It provides little practical guidance on how to exercise that discretion. In practice, additional testing requirements are imposed by way of amendments to operating permits; entries in inspection reports; by orders under section 8 (6) of the *DWPA*; and by request of a drinking water officer. As additional sampling may be required or requested in all these different ways, regional health authorities could not provide us with reliable information about how frequently they consider or require additional testing. In addition none of the regional health authorities consistently track such sampling requirements and results on their databases.

The *DWPA* also permits drinking water officers, on a case-by-case basis, to reduce the mandatory number of samples taken for independent testing. Again, different regional health authorities have taken different approaches. In all cases there was no consistent tracking of the changes made to sampling frequencies.

I have made three recommendations in relation to drinking water standards. First, that by June 1, 2009, the regional health authorities develop systems to track and publicly report water sampling data, including the list of substances tested for, how frequently sampling is carried out and the results of that testing, and post the results of those tests promptly on their websites (Recommendation 18). Second, that the Ministry of Health, by June 1, 2009, reassess whether to adopt additional mandatory drinking water standards (Recommendation 19). Third, that the Ministry of Health develop guidelines to assist drinking water officers in exercising their discretion to require sampling for additional substances (Recommendation 20).

Accessibility and Availability of Sampling Results [24]

There is wide variation across British Columbia in the availability of information about water systems, including test results. Some larger systems, such as the Greater Vancouver Regional District, put this type of information on their websites. Small systems typically do not — indeed they may not have a website.

The minimum standard imposed by the *DWPA* and the *DWPR* is that water suppliers make the results of their water tests public by, at the latest, June of the following year. They can do this through an annual report.

We looked at how regional health authorities ensured that water suppliers in their regions make annual reports available to customers on all the monitoring required by the *DWPR*, their operating permits or by a drinking water officer.

The Northern Health Authority posts the results of bacteriological water samples on its website and reminds water suppliers about an annual report during inspections of systems. Fraser Health Authority does not currently post sampling results on its website but hopes to do so. It provides the sampling results, which are required to be included in an annual report, to approximately 95 per cent of its water suppliers. Interior Health Authority does not post sampling results on its website. While it includes the requirement of an annual report as a condition on the operating permit, this is only for larger systems. It is currently working on a strategy to enforce this requirement. Vancouver Coastal Health Authority does not currently post sampling results on its website, though it is currently testing a publicly accessible online portal where it hopes to post all sampling results. For water supply systems in its Coast Garibaldi region, which submit

[24] See pages 75-78.

samples to BCCDC for testing, the results go directly to Coast Garibaldi's online database where they are publicly accessible. Vancouver Island Health Authority does not post sampling results on its website, nor does it currently monitor or enforce the requirement for water suppliers to produce a publicly available annual report.[25]

There are a number of ways that all regional health authorities could ensure compliance with the requirement for water suppliers to produce annual reports, including making it part of their regular inspection; verifying how the report is made available to the public; and requiring they receive a copy of the report.

I have recommended that Interior Health Authority, Northern Health Authority, Vancouver Coastal Health Authority and Vancouver Island Health Authority within the next year develop systems that will allow them to track whether water suppliers have provided annual reports and take necessary steps to enforce compliance (Recommendation 21). I have also recommended that the Fraser Health Authority, Interior Health Authority, Vancouver Coastal Health Authority and Vancouver Island Health Authority post the results of water sampling on their websites (Recommendation 22).

Inspections[26]

Inspections are a tool that drinking water officers use to monitor drinking water quality. While the *DWPA* gives drinking water officers the authority to inspect systems, it does not require they do so. The regional health authorities each have a goal for how often they will routinely inspect water systems and a process for assessing whether a particular system should be inspected more often. Currently none of the regional health authorities is meeting their inspection goal of inspecting each system at least once a year.[27] Only two, Fraser Health Authority and Northern Health Authority, publish the results of their inspections on their websites.

Consequently, I have recommended that all the regional health authorities have written, publicly accessible inspection goals (Recommendation 23). I have also recommended that the Interior Health Authority, Vancouver Coastal Health Authority and Vancouver Island Health Authority report the results of their inspections on their websites (Recommendation 24).

Emergency Response and Contingency Plans[28]

All water suppliers are required by the *DWPA* to have emergency response and contingency plans that can be activated in case of emergency. The plans must be accessible to the water systems staff and a copy provided to the drinking water officer. A summary of the plan must be available to customers or users of the system. Plans are reviewed annually and are supposed to be updated to reflect changing circumstances.

No regional health authority had emergency response and contingency plans for every water system in their area. The highest compliance rate was 91 per cent for the Fraser Health Authority. The Vancouver Island Health Authority could not provide the required information, in part it appears because it does not retain all emergency response plans.

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[25] See Table 10 — Availability of Sampling Results on Health Authority Websites and in Annual Reports.
[26] See pages 78-80.
[27] See Table 11 — Inspection of Drinking Water Systems by Health Authority.
[28] See pages 81-83.

I have recommended that all regional health authorities enforce the requirement for water suppliers to have emergency response and contingency plans; that they retain copies of those plans; and that they have a system in place to track the level of compliance with this statutory requirement (Recommendation 25).

Remedial Action and Enforcement [29]

All regional health authorities try to obtain voluntary compliance with the provisions of the *DWPA* from the water suppliers in their area before looking at formal compliance mechanisms, such as issuing an order or laying a charge. The Interior and Northern health authorities have progressive enforcement policies that apply to their environmental health programs, while Vancouver Island Health Authority has a draft policy. Fraser Health Authority is developing a drinking water program guideline and Vancouver Coastal Health Authority has a one-page notice that it provides to systems on boil water advisories. While the regional health authorities acknowledge the importance of progressive enforcement policies, in practice action taken under those policies rarely extends to issuing orders or violation tickets or laying charges for non-compliance with the *DWPA*. The total number of orders issued under the *DWPA* in the past five years is 30. This number however does not include Interior Health Authority, which indicated that it did not know the number of orders issued and could not provide a number unless it went through all physical files on each water supplier.

Our review of the files related to these orders showed limited escalation of enforcement to the formal level. Generally a very long period was spent working to obtain voluntary compliance; and in some cases, no timelines for compliance or consequences were imposed for failing to comply with an order.

I have recommended that Fraser Health Authority complete development of a progressive enforcement policy and follow that policy (Recommendation 26). I have also recommended that all the regional health authorities utilize the full range of enforcement options available to them to bring water systems into compliance with the *DWPA* and *DWPR* (Recommendation 27).

Issues Affecting Small Systems [30]

All of the regional health authorities have identified particular challenges in dealing with small water supply systems, which can be operated by individuals, partnerships, societies, companies, corporations, improvement districts or by what are known as private water utilities. While the *DWPA* applies to all systems, however created, private water utilities are also regulated in the public interest, by the Ministry of Environment.

Water Utilities [31]

A water utility is defined in the *Water Utility Act* as a person (including a corporation) who owns or operates equipment or facilities for the delivery of domestic water service to five or more persons, or to a corporation for compensation.

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[29] See pages 84-86.
[30] See pages 87-102.
[31] See pages 88-93.

They are usually created when there is a requirement to provide water service as a condition of subdivision approval in a rural area. Under the *Water Utility Act* it is the Ministry of Environment, through the comptroller of water rights, that is responsible for the regulation of these systems to ensure they are properly designed and constructed and that their customers receive acceptable water service at reasonable rates. Most private water utilities today are more than 25 years old, though new ones are still being authorized.

When the comptroller of water rights staff receive a request for approval of a new utility or the extension of an existing one they must be satisfied that the design of the system is appropriate and that the system is financially viable. A permit, called a *Certificate of Public Convenience and Necessity*, can then be issued that sets out the conditions under which the private water utility must operate. This process is particularly important as currently private water utilities are not eligible for infrastructure grants to maintain, improve or upgrade their facilities, but rather must self-fund upgrades and improvements.

As a matter of practice private water utilities are seen as a "stop-gap" measure: the ultimate goal is to have them taken over by local government. However, the number of private water utilities remains almost the same as it was in 2002/2003.

Water utilities are often operated by corporations and societies that are required to file reports with the Ministry of Finance to maintain their status. If a private water utility fails to comply with these reporting requirements, then it can be dissolved and any assets it owns pass to the provincial Crown.

We found the Office of the Comptroller of Water Rights does not have a policy to ensure that private water utilities maintain their official status and are not dissolved, nor does it have effective procedures in place to obtain notification if such dissolution does occur and the assets of a system pass to the provincial Crown. These are significant deficiencies since it is the comptroller of water rights who is responsible for the creation and regulation of these water systems and may be responsible for operating them if they are dissolved. In one case, the Office of the Comptroller of Water Rights received no response to its letters and requests from 1997 to 2006. In 2006, after complaints by customers that the private water utility was in disrepair, it discovered that the system had in fact not legally existed since 1997.

I have recommended that the comptroller of water rights take practical steps to ensure that the office receives timely notification of the dissolution of water utilities, by June 1, 2009 (Recommendation 28). I have also recommended that the Office of the Comptroller of Water Rights put in place a system that enables it to monitor whether reporting requirements are being met by water utilities and take appropriate enforcement action to ensure compliance when that is not the case by June 1, 2009 (Recommendation 29.1). Finally, I have recommended that the Ministry of the Environment review the *Water Utility Act* and the *Utilities Commission Act* to ensure that they provide sufficient authority to allow the Ministry to enforce private water utilities' compliance with reporting requirements (Recommendation 29.2).

Small Systems Operator Training and Certification [32]

An area that provides continual challenge is ensuring that operators of small water systems are properly qualified. While the *DWPR* exempts small systems from the requirement that all persons operating, maintaining or repairing a water supply system be properly qualified or act under the supervision of a properly qualified person, regional health authorities are moving towards making this a condition of granting an operating permit for all systems.

Many small systems have difficulty in finding and retaining qualified operators. In part the problem is attributable to the training and certification process for qualifying operators. Training is conducted by a number of officially approved organizations including the BC Water and Waste Association and Thompson Rivers University. Testing and certification is done by the Environmental Operators Certification Program, a not-for-profit organization.

Small water system operators from different parts of the province expressed concern about a lack of coherence in the process. These concerns included training and testing disconnects; incomplete or incorrect information about qualifications; and limited training and testing venues.

Ultimately, it is the Ministry of Health that is responsible for ensuring that the certification program operates in an efficient, fair and equitable manner. Both the small system operators and the Environmental Operators Certification Program have raised concerns with the Ministry of Health that remain unaddressed.

Consequently, I have recommended that the Ministry of Health address these concerns and ensure that the training and certification processes interface effectively by June 1, 2009 or assume these responsibilities itself (Recommendation 30).

Small Systems Challenges [33]

All of the regional health authorities that serve large rural populations told us they believe that there are still hundreds of small water systems within their jurisdictions that they do not know about and are therefore not monitoring, inspecting or ensuring that water quality standards are being met. However, when we asked the regional health authorities what they were doing to locate these systems, none were actively looking for them. Vancouver Island Health Authority in the past had a program to inventory water supply systems and Interior Health Authority is developing a program.[34]

As with the issue of addressing long-term water advisories, the identification of small, unregulated water supply systems is a persistent challenge and the two seem inextricably entwined. This is compounded by the experience that such systems, once discovered, often must be immediately be put on water advisories, as their equipment and facilities do not meet today's standards. However, identifying these systems and bringing them up to standard is key to ensuring that all British Columbians, including those in isolated and rural areas, have access to water that is fit to drink.

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[32] See pages 94-97.
[33] See pages 98-101.
[34] See Table 14 — Identification of Unregulated Small Systems.

I have recommended that by January 1, 2010, the Ministry of Health ensure adequate processes, including the timely exchange of information, are in place to enable the regional health authorities to identify small systems. I have also recommended that the regional health authorities work proactively to identify all small systems within their jurisdictions (Recommendations 31 and 32).

In 2004, the Ministry of Health launched a Small Water Systems Review Project. That project resulted in recommendations designed to assist small systems in meeting the public health protection objectives of the *DWPA*. Some of the recommendations were implemented in 2004-2005 but a number remain unaddressed. Shortly after this Ombudsman investigation was announced in January 2008, the Ministry of Health established a small systems working group to develop an implementation plan for recommendations from recent reports. Although the original timeframe for implementation was "March 2008 latest," that was changed in March 2008 "to develop a project plan in the coming months."

Given the delays in addressing the various issues outlined in this report that relate to small water systems, I have recommend the Ministry of Health develop a coordinated provincial small systems strategy report and implementation plan and report publicly on this by January 1, 2010 (Recommendation 33).

Drinking Water Information Management Initiatives [35]

Clearly public authorities are not collecting or managing drinking water information as effectively as they could and should. Provincial authorities identified this problem in 2003 and established a project to create an information management system that would provide access to all necessary data on drinking water management in the province, called the Drinking Water Information Management Project (DWIMP). That project ended with identifying technological barriers and information deficiencies that would prevent it from achieving its goals.

In 2007 another project began, the Drinking Water Information Initiative (DWII). It examined the information different authorities already held and what other information needed to be collected to fill gaps. This project also identified the information available for inclusion in another information management project, the water information section of the environmental health application of the proposed BC-Yukon Public Health Information Project (PHIP). It found 80 per cent of the information required would have to be provided by the regional health authorities, though it could not determine if they currently collected all that information.

In January 2008, PHIP funding had not been approved and any regional health authority participation was conditional on several issues, including appropriate funding. By the end of April 2008 there had been significant progress on the project, with all the authorities agreeing to one central system and the Ministry of Health indicating it would try to minimize the incremental costs to the regional health authorities.

[35] See pages 103-107.

It is clear that the original objectives of DWIMP have not yet been achieved. Consequently, I have recommended the Ministry of Health ensure that a comprehensive drinking water program be developed, implemented and be accessible to the public by December 31, 2009. The ministry has accepted the recommendation and hopes to achieve this by the roll-out of the larger PHIP initiative targeted for that date (Recommendation 34).

Conclusion

The *DWPA* consciously established a multi-barriered approach to drinking water protection and, at the same time, effectively established a multi-departmental, multi-agency, multi-level responsibility and accountability process as well. Particularly in situations where public safety is involved, this requires that all the authorities involved have fair, transparent and effective administrative processes to ensure that a seamless protective web exists. I believe the acceptance and implementation of the recommendations in this report will assist in achieving that goal.

Backgr

Legislative History

Prior to 1992, drinking water quality in British Columbia was regulated under the *Health Act* and its *Sanitary Regulation*. In October 1992, the *Safe Drinking Water Regulation* was brought into force, also pursuant to the *Health Act*, to regulate the construction and operation of waterworks systems. That Regulation required water suppliers to take steps to ensure water was safe to drink.

The provincial government then created the *Drinking Water Protection Act* (*DWPA*), which was first passed (but not brought into force) in 2001. The legislation was subsequently reviewed by a provincially appointed Drinking Water Review Panel, which issued recommendations in 2002.

In 2002, the provincial government released its *Action Plan for Safe Drinking Water in British Columbia (Action Plan)*. In the *Action Plan* the government committed "to protect drinking water from source to tap by improving standards for monitoring, treatment, reporting and accountability to the public."[36]

The *Action Plan* identified challenges that the government faced in ensuring British Columbians had access to safe drinking water. These included health concerns about the quality of water and aging infrastructure. The report also identified solutions, such as adopting principles for protection, strong and effective legislation, and ensuring that there is clear responsibility within government for clean drinking water.

The key principles were identified as:

- The safety of drinking water is a public health issue.
- Source protection is a critical part of drinking water protection.
- Providing safe drinking water requires an integrated approach.
- All water systems need to be thoroughly assessed to determine risks.
- Proper treatment and water distribution system integrity are important to protect human health.
- Tap water must meet acceptable safety standards and be monitored.
- Small systems require flexibility and safeguards.
- Safe drinking water should be affordable, with users paying appropriate costs.

On May 16, 2003, the *DWPA* along with the *Drinking Water Protection Regulation* (*DWPR*) came into force. They reflect the principles and goals enunciated in the *Action Plan*.

The *Drinking Water Protection Act*

The *DWPA* was introduced with the stated aim of providing a more comprehensive and rigorous approach to drinking water protection, with more emphasis on oversight and accountability than existed previously. The Act and the Regulation take a multi-barriered approach to water safety, with the goal of protecting drinking water starting from the source in watersheds or aquifers, through treatment and distribution systems, to consumers' taps. This multi-step approach requires implementing barriers to stop contaminants

[36] B.C. Ministry of Health Services and B.C. Ministry of Health Planning, *Action Plan for Safe Drinking Water in British Columbia* (2002), 1.

from entering the water supply, treatment, maintenance and improvements to distribution systems, quality monitoring, and operator training and certification. It also includes gathering information through inspections, assessments and monitoring.

The *DWPA* is divided into six parts.

Part 1 outlines the relationship of the *DWPA* to other Acts and outlines some of the responsibilities of the minister, the provincial health officer, advisory committees, and drinking water officers under the *DWPA*.

Part 2 sets out requirements around potable water, construction and operating permits, qualification standards for operators, emergency response and contingency plans, water monitoring, notice and reporting, public information, floodproofing, and systems with multiple owners.

Part 3 establishes the circumstances in which a water supplier may be required to prepare a water source and system assessment.

Part 4 deals with drinking water protection and sets out prohibitions, requirements to report threats, authority to issue hazard abatement and protection orders, authority to issue orders for contraventions, authority for drinking water officers to take action, and establishes a right to request an investigation if a person considers that there is a threat to their drinking water.

Part 5 establishes the process for developing drinking water protection plans.

Part 6 sets out decisions that are open to reconsideration and review, authority to conduct inspections, offences and penalties, and authority to make regulations.[37]

The *Drinking Water Protection Regulation*

The *Drinking Water Protection Regulation* (*DWPR*) came into force on May 16, 2003 and was amended on December 9, 2005. The *DWPR* sets out requirements around treatment, construction and operation of water systems, monitoring, reporting, operator certification, public notification and well floodproofing.

The *DWPR* was amended in 2005 in order to

- establish a definition of "small system";
- provide drinking water officers with discretion to determine small system operator certification requirements and to waive requirements for construction permits;
- make small systems that do not provide water for consumption or food preparation not subject to the same potability requirements;
- make it mandatory for water suppliers to test samples for E. coli in addition to total coliforms;
- require laboratories to report water sample results to the drinking water officer and/or the water supply owner, including information about samples that will not be analysed because the laboratory did not receive them soon enough after they were collected;

[37] For more information on the role of drinking water officers, the Ministry of Health and the provincial health officer see the section of this report on *Roles and Responsibilities Related to Drinking Water*.

Backg

- provide greater flexibility for uncertified specialists to maintain or repair water supply systems, provided they do so in accordance with procedures approved by a certified individual;
- allow drinking water officer approved professional engineers to issue construction permits;
- clarify that bottled water manufacturers and bulk water dispensing machines are excluded from the requirements of the *Drinking Water Protection Act*; and
- establish ticketing provisions under the *Offence Act* for significant violations of the *DWPA* or *DWPR*.

Progress on the *Action Plan*

In February 2007, the provincial health officer released the *Progress on the Action Plan for Safe Drinking Water in British Columbia*. This was identified as the provincial health officer's report for 2003/2004 and 2004/2005.[38] According to the provincial health officer, the report was released to satisfy the legislative requirement under section 4.1 of the *DWPA*, which requires the provincial health officer to prepare and deliver an annual report respecting activities under the *DWPA* to the Minister of Health.[39] The report outlines the actions of the ministries, health authorities and drinking water suppliers under the Act since it came into force. The report identifies challenges the government, health authorities and water suppliers face in implementing the Act and Regulation and makes recommendations for improvement. It also outlines an accountability framework based on recommendations in the 1996 auditor general's report, *Enhancing Accountability for Performance: A Framework and an Implementation Plan*.

What Prompted Our Investigation?

In addition to having the authority to investigate individual complaints, the Ombudsman has the authority to conduct investigations on his or her own initiative.[40] Over the past several years, the Office of the Ombudsman had received a wide variety of complaints about drinking water safety from people in all regions of the province. These complaints concerned the actions, decisions or policies of many different agencies that fall within the Ombudsman's jurisdiction, including the Ministry of Health, the Ministry of Environment, health authorities, improvement districts, local governments, and some, such as private water suppliers, that fell outside our jurisdiction. The concerns raised with the office included

- authorities not responding appropriately to concerns about drinking water safety;
- inadequate investigations;
- people not notified promptly about boil water advisories;
- boil water advisories being in place for too long;
- people with compromised immune systems not being notified of water quality and safety issues in a timely manner;
- questions about water sampling and results;
- lack of enforcement of the *Drinking Water Protection Act*;

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[38] While released in early 2007, the report itself gives 2006 as the suggested citation date, and we have followed that suggestion.

[39] Office of the Provincial Health Officer, *Progress on the Action Plan for Safe Drinking Water in British Columbia*, (2006), xi.

[40] *Ombudsman Act*, R.S.B.C. 1996, c. 340, s. 10.

Background

- inadequate protection of drinking water sources from contamination due to logging, septic fields and grazing;
- questions about elevated levels of chemical substances, including arsenic;
- inadequate information available about public and private water systems; and
- private water supply rates, policies and regulations.

In addition, it has now been five years since the *Drinking Water Protection Act* and Regulation came into force in British Columbia in May 2003. This new legislative framework imposed additional requirements on public and private water suppliers. As the *Drinking Water Protection Act* and Regulation have now been in force for five years, it is reasonable to conclude the initial transitional, adaptive phase that follows new legislation and regulation is now over and it is an opportune time to evaluate the effectiveness of some of the procedures in the Act and Regulation aimed at ensuring clean, safe drinking water for British Columbians.

In November 2007, the Ombudsman initiated this investigation to consider administrative processes related to the provision of safe drinking water. The focus of the investigation was on five main areas: how authorities deal with complaints from members of the public relating to the safety of drinking water; the issuing of boil water notices and water quality advisories; monitoring and enforcement of the Act and Regulation; the particular challenges of small systems; and drinking water information management systems. The authorities investigated included the Ministry of Health, Ministry of Environment, Office of the Provincial Health Officer, Fraser Health Authority, Interior Health Authority, Northern Health Authority, Vancouver Coastal Health Authority, and Vancouver Island Health Authority.

The following is an example of the kind of complaints our office received that caused us to begin this investigation. The example illustrates some challenges in providing safe drinking water in B.C.

An improvement district that serves approximately 4,000 people draws water from a river that is prone to turbidity, particularly when there are heavy rains. The improvement district was concerned that logging near the river was threatening its drinking water source and causing increased turbidity. They asked the regional health authority to investigate (under section 29 of the *DWPA*). However, the regional health authority was not prepared to investigate unless the improvement district provided additional information about the nature of the threat.

Before it is distributed, the improvement district's water is disinfected with chlorine. Three interruptions of the chlorination process took place in 2007. The Office of the Ombudsman received two complaints regarding how both the improvement district and the regional health authority responded to these events.

The first time the chlorination system failed was on a Friday in January 2007. The operator discovered the problem around 8 a.m., shut down the intake pumps and notified a trustee, the health authority, and operations staff at a neighbouring water system. Water samples were taken to measure the levels of chlorine in the system, and for bacteriological analysis. By 9:45 a.m., the chlorinator was repaired and the system was back in service.

Surprisingly, neither the improvement district nor the regional health authority knew where to have water samples analyzed over the weekend. Despite this, a laboratory was eventually located and samples were collected over the weekend.

Two days later, the BC Centre for Disease Control (BCCDC) notified the improvement district that a sample taken on Friday had tested positive for E. coli. Steps were taken to issue a boil water advisory, and collect additional samples for analysis.

The second chlorination failure occurred in March 2007. When the operator noticed the failure, he fixed the part that had broken, and advised the improvement district's chair and the regional health authority. Steps were taken to flush the lines, and collect samples to confirm. The regional health authority advised the improvement district that a boil water advisory was not needed. However, the regional health authority instructed the operator to get a message to customers explaining that a loss of disinfection had occurred, that customers in a specific location may have received unchlorinated water, and that disinfection had been restored and the improvement district had ordered a chlorine analyzer.

The third event happened in June 2007, when the system's chlorinator failed. The residual chlorine analyzer detected low levels of chlorine, and set off an alarm, which caused the system's pumps to shut off. The system's alarm also automatically paged the improvement district's operator. The operator fixed the chlorinator. Since no raw water had been distributed, the public was not notified.

A subsequent investigation into these incidents commissioned by the water supplier found:

- During the January event, untreated water entered the distribution system for up to 19 hours and a public advisory should have been issued right away.
- With respect to the March event, public notice should have been issued because a significant part of the distribution system received raw water for about 25 hours.
- The wording of the notification that was issued in March was vague (for example, "some customers may have received unchlorinated water") and some people would not have known how to interpret it.
- Although an emergency response plan (ERP) was in place, there was no indication that the operator, trustees or the drinking water officer referred to it during any of the events. The operator on duty was unaware that the ERP existed and had not received emergency training.
- With respect to the June event, the new monitoring equipment and alarm system that had been installed functioned properly and shut off the water supply when low levels of residual chlorine were detected.

This investigation resulted in a number of recommendations including that the improvement district update its emergency response plan and work with the regional health authority to update the conditions on its operating permit.

While the investigation was focussed on the improvement district's actions and processes, we believe that the following observations about the regional health authority's role are noteworthy:

- While the health authority had been recommending that the improvement district install a chlorine analyzer since 2000, it didn't take the further step of ordering it to do so, even after the January event.
- The health authority delayed requesting or requiring the improvement district to notify the public in January and again in March.

- The health authority was unable to provide the improvement district with the name of a laboratory that was open on the weekend to analyze water samples.
- The health authority did not refer to the emergency response plan and had not required the improvement district to update the plan, nor had it considered updating the conditions on the improvement district's operating permit since 1995.
- The health authority provided vague and unclear wording for the public advisory that was issued in response to the March 2007 event.

Fortunately it appears that no one became ill as a result of these events. However, this situation highlights many of the problem areas that we discuss in this report.

Investigation

On November 20, 2007, the Ombudsman announced an investigation into the fairness and adequacy of the public advisory and complaints process regarding drinking water safety.

Document Review

At the outset of this investigation, our office reviewed the legislative history and provisions of the *Drinking Water Protection Act* (*DWPA*) and the *Drinking Water Protection Regulation* (*DWPR*). We examined policies of the Ministry of Health, the Ministry of Environment, the Ministry of Community Services, the five regional health authorities, and the Office of the Provincial Health Officer.

We reviewed the following documents and information provided to our office by:

- regional health authorities;
- the Ministry of Health, Drinking Water Program;
- the Ministry of Environment;
- the Ministry of Community Services;
- the Office of the Provincial Health Officer; and
- the BC Centre for Disease Control.

Roles and Responsibilities

- organizational charts and job descriptions related to Drinking Water Program positions

Complaints

- brochures, website information and other methods by which the public is informed of how to make a complaint, how to request an investigation under section 29 of the *DWPA*, or how to request reconsideration or review of a decision under section 39.1 of the *DWPA*
- complaint and intake forms used and complaint policies
- copies of orders issued under section 19, 25, 26, and 31(4) of the *DWPA*
- copies of all complaints, requests for investigation, and reconsideration and review files received since the *DWPA* came into force
- information about how complaints, investigations, reconsiderations and reviews are recorded and tracked

Public Advisories and Notifications

- the number of advisories and notifications in place in B.C. and length of time they have been in place
- information about how the public is informed of advisories and notifications
- the systems used to track advisories and notifications
- the practice of posting water advisories on health authority websites
- steps taken to reduce the number of systems on advisories
- a random selection of health authority files of systems on boil water advisories

- methods by which people with compromised or weakened immune systems are notified about drinking water safety issues
- the practice of issuing advisories due to turbidity
- the report of the Ministerial Technical Advisory Committee on Turbidity and Microbial Risk in Drinking Water

Monitoring and Enforcement

- information about sampling for bacteriological parameters, sampling for chemical and physical parameters, sampling frequency, audit sampling, and accessibility and availability of sampling results
- information about access to approved laboratories
- information about inspection goals, frequency, public reporting of inspection results, and systems used to track inspections
- inspection forms used by drinking water officers
- information about systems that have emergency response and contingency plans and steps taken to enforce this requirement
- copies of all orders issued under the Act since 2003
- copies of enforcement files
- progressive enforcement policies

Issues Affecting Small Systems

- information about the number of small systems in each health authority and steps taken to identify and regulate small systems
- particular challenges faced by small systems
- information about the role of the comptroller of water rights in regulating water utilities and the challenges posed
- information about access to funding for small water supply systems
- information about training and certification of small system operators

Drinking Water Information Management Initiatives

- information about the existing environmental health databases and what has been said publicly about the need for a comprehensive information management system
- information about the Drinking Water Information Management Project, the Drinking Water Information Initiative, the Environmental Health and Health Protection Application, and the BC-Yukon Public Health Information Project

Interviews and Meetings

In general, people we spoke with responded in a positive fashion to our investigation. Comments included, "What took you so long" and "We are delighted to have an opportunity to talk about our situation." Most responded in a timely fashion to our requests for information and documentation and were open and frank in their comments.

Ombudsman staff spoke with representatives of the following organizations during this investigation:

- the Office of the Provincial Health Officer;
- the Ministry of Health;
- the Ministry of Environment;
- the Ministry of Community Services;
- the Fraser Health Authority;
- the Interior Health Authority;
- the Northern Health Authority;
- the Vancouver Coastal Health Authority;
- the Vancouver Island Health Authority;
- the BC Centre for Disease Control;
- the BC Water & Waste Association;
- the Environmental Operators Certification Program; and
- the Sustainable Infrastructure Society.

Ombudsman staff also attended a meeting of the ADMs' Committee on Water.

Site Visits

Ombudsman staff visited or toured the following sites:

- small water systems in the Interior region;
- small water systems in the Northern region;
- small and medium-sized water systems on Vancouver Island;
- a medium-sized water system in the Fraser region;
- a large water utility in the Fraser region; and
- the Capital Regional District's laboratory, ultraviolet treatment station, chlorination treatment station, and ammonia treatment station.

In addition, Ombudsman staff accompanied a drinking water officer on an inspection of small water systems on Vancouver Island.

These visits covered a cross-section of water systems throughout the province. Systems varied in size from those serving as many as 400,000 people to those serving as few as 12 customers. Ombudsman staff also visited and toured the facilities of privately owned water utilities.

Online Questionnaire

In addition to meeting with the agencies responsible for safeguarding the safety of drinking water, we thought it was important to offer members of the public an opportunity to contribute their views. We posted a questionnaire that assured people their responses would be confidential. In three months we collected more than 100 responses. The information people submitted helped us gain a better understanding of concerns relating to drinking water safety in the province and contributed to the direction and focus of our investigation. We would like to thank everyone who took the time to answer our questions.

The principal responsibility for regulating drinking water in British Columbia falls to the provincial government. While that responsibility is shared between different ministries it is the regional health authorities that are responsible for administering provincial drinking water legislation and regulating water suppliers. The following section outlines the respective roles of the various organizations involved in the provision of drinking water.

Ministry of Health

The *Drinking Water Protection Act* (*DWPA*) designates the Ministry of Health as the lead agency responsible for ensuring that B.C.'s drinking water is safe. The ministry carries out this role through its Drinking Water Program, which develops legislation, policies and programs related to safe drinking water in the province. The program's staff provides advice on legislation and policy issues to health authorities, the BC Centre for Disease Control and the provincial health officer. They also coordinate and consult with other agencies and committees on provincial drinking water issues. The Ministry of Health publishes the *BC HealthFiles*, which notify the public of health concerns and steps they can take to protect themselves.[41]

Office of the Provincial Health Officer

The provincial health officer, the senior medical health officer in B.C., has an oversight role regarding drinking water safety in B.C. Under the *DWPA* the provincial health officer is responsible for

- determining the qualifications for drinking water officers;
- monitoring compliance of drinking water officers with guidelines and directives;
- reporting annually on activities under the *DWPA*;
- advising the Minister of Health of situations where drinking water health hazards may exist;
- reviewing decisions of drinking water officers; and
- approving laboratories to conduct bacteriological analysis of water samples.

The provincial health officer is also a key player in the development of a new drinking water information management system. The provincial health officer is supported by the provincial drinking water officer who oversees the drinking water program.

Ministry of Environment

Among other things, the Ministry of Environment's Water Stewardship Division is responsible for issuing licences to divert and use surface water, water stewardship and planning, and for regulating water utilities and water users' communities. Water utilities and water users' communities are regulated by the comptroller of water rights, assisted by the staff of the ministry's Utility Regulation Section. The ministry has also played a key role in promoting the development of a comprehensive drinking water information management system.

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[41] The full series of *BC HealthFiles* is available at <http://www.bchealthguide.org/healthfiles/index.stm>.

Ministry of Community Services

The responsibilities of the Local Government Department of the Ministry of Community Services include local government legislation, facilitating partnerships with local governments and First Nations, facilitating community and regional planning, providing information and advice to local governments, and, offering financial support to local governments. The ministry provides infrastructure grants to assist local governments to address health and environmental concerns by funding projects that remove health hazards or provide improved environmental protection, including grants for infrastructure upgrades to drinking water systems.

Assistant Deputy Ministers' (ADMs') Committee on Water

The ADMs' Committee on Water (formerly the ADMs' Committee on Drinking Water) was formed in 2002 to ensure that ministry decision-makers developed a coordinated and integrated response to the protection of drinking water. The committee meets monthly and consists of representatives from the Ministry of Environment, the Ministry of Community Services, the Ministry of Agriculture and Lands, the Ministry of Transportation, the Ministry of Aboriginal Relations and Reconciliation, the Ministry of Public Safety and Solicitor General, the Ministry of Forests and Range, the Ministry of Energy, Mines and Petroleum Resources, the Office of the Provincial Health Officer, and the Ministry of Health. The goals of the ADMs' Committee on Water are

- to ensure that statutory decision makers consider and give priority attention to protection of human health through drinking water;
- to coordinate government policy and action on drinking water matters;
- to steer the work of the Directors' Committee on Drinking Water and related working groups; and
- to manage the government's response to the provincial health officer's *Annual Report on Drinking Water*.[42]

Health Authorities

Health services in B.C. are provided by five regional health authorities and the Provincial Health Services Authority. The five regional health authorities serve the different geographic regions of B.C. and the Provincial Health Services Authority is responsible for providing specialized health care services.[43]

It is the regional health authorities that, through their drinking water officers, provide surveillance and monitoring of drinking water systems, and administer and enforce the *DWPA*, the *Drinking Water Protection Regulation* and the *Health Act*.

The *DWPA* provides that the drinking water officer is the person appointed by the medical health officer or, if no one is appointed, the medical health officer him or herself.[44]

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[42] B.C. Ministry of Health, *Drinking Water Committees — Membership, Roles, Responsibilities, Mandate and Meeting Frequency* (2008).

[43] The five regional health authorities are the Fraser Health Authority, Interior Health Authority, Northern Health Authority, Vancouver Coastal Health Authority and Vancouver Island Health Authority.

[44] *Drinking Water Protection Act*, S.B.C. 2001, c. 9, s. 3.

BC Centre for Disease Control (BCCDC)

The BCCDC is a public health agency of the Provincial Health Services Authority. It provides laboratory services to all B.C. health authorities. Its water laboratory is one of 16 approved by the provincial health officer to conduct drinking water analyses that identify and monitor potential microbiological threats to human health. The BCCDC is a partner in the Enhanced Water Quality Assurance Program that assesses and recommends laboratories to the provincial health officer for approval of microbiological testing.

Water Suppliers

A water supplier is a person who is the owner of a water supply system. The owner of a water supply system is the person responsible for the ongoing operation of the water system or in charge of managing the operation of the system. Water suppliers in B.C. are responsible for providing drinking water that is safe and that meets the standards set out in the *DWPA* and its Regulation. Unless exempt, water suppliers are required to

- provide potable water;
- obtain construction and operating permits;
- have certified operators;
- have written emergency response and contingency plans;
- engage in sample monitoring;
- advise the drinking water officer if test results do not meet specified standards;
- notify the drinking water officer of other threats;
- provide public notice of threats to drinking water;
- make various information public; and
- flood proof wells.

In addition, drinking water officers may require water suppliers to conduct water source and system assessments and to participate in the development of a drinking water protection plan.

Most people in B.C. live in areas where water service is provided by a local government. A significant number of people in B.C., however, receive their water from other entities. The following sections describe the kinds of entities that may be water suppliers.

The *DWPA* does not specify the type of entity that can be a water supplier. Water suppliers may be individuals, partnerships, corporations, societies, improvement districts, utilities, water users' communities, or another type of organization or entity. All water suppliers are bound by the requirements of the *DWPA* but may differ in how they are structured, organized and raise funds.

Municipalities

There are 157 municipalities scattered across B.C. Municipalities cover about one per cent of B.C. but serve approximately 87 per cent of the population and may be a village, town, district or city depending on the population.

Municipalities are governed by elected municipal councils consisting of a mayor and councillors. Municipalities operate primarily under the *Community Charter*, which enables them to provide a variety of services including government, transportation, police, fire, water treatment and supply, waste water treatment, refuse collection and disposal, recreation and culture, land use planning and regulation. Municipalities are able to generate revenue to finance operations through property tax and by charging fees for services. Municipal councils appoint one or more members to sit as municipal representatives on their respective regional board.[45]

Regional Districts

There are 27 regional districts in B.C., which cover almost the entire province. Each regional district is divided into smaller electoral areas. Regional districts provide regional governance and services for the region as a whole, provide a political and administrative framework for inter-municipal or sub-regional partnerships and may be the local government for rural areas.

Regional districts are governed by a board of directors, which consists of a director elected from each electoral area and appointees from municipalities. They generate revenue through property taxes, fees and other charges and are eligible for a number of grants and financing options. With respect to water service, regional districts may manage the reservoirs and treatment facilities and deliver the water to municipalities, which are responsible for distributing water to individual customers.[46]

Improvement Districts

Improvement districts are local government bodies responsible for providing local services such as water, fire protection, street lighting, dyking, drainage and garbage collection to residents. Typically an improvement district provides only one or two of these services and does not have a role in general governance or land use planning. Improvement districts may provide services to small subdivisions or to larger communities, and are usually located in rural areas. Improvement districts may be located within the boundaries of regional districts or municipalities but they operate independently of each other.

Each improvement district is governed by a board of elected trustees, including a chair. Improvement district board members are typically volunteers from the community. The board's authority is laid out in the improvement district's bylaws and the *Local Government Act*. Services are financed solely by taxation or user fees. Improvement districts are not eligible for infrastructure planning and capital grants.[47] Local governments may apply for capital infrastructure funding on behalf of an improvement district provided that if a grant is awarded, the improvement district commits to dissolve, and all assets and responsibility for operation and management of the water system are transferred to the local government.

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[45] Ministry of Community Services, Local Government Department, "Municipalities," <http://www.cserv.gov.bc.ca/lgd/pathfinder-mun.htm>.

[46] Ministry of Community Services, Local Government Department, A Primer on Regional Districts (2006), 5 <http://www.cserv.gov.bc.ca/lgd/gov_structure/library/Primer_on_Regional_Districts_in_BC.pdf>.

[47] Ministry of Community Services, Local Government Department, "Improvement Districts," <http://www.cserv.gov.bc.ca/lgd/pathfinder-id.htm>.

Irrigation Districts

Under the *Local Government Act*, irrigation districts are a type of improvement district. Historically, irrigation districts were either primarily or exclusively incorporated for the purposes of providing water for irrigation. However, with the growth of residential development, irrigation districts increasingly provide drinking water to their customers as well.

Water Users' Communities

A water users' community is a public body incorporated under section 51 of the *Water Act* and to which the comptroller of water rights has issued a certificate of incorporation. Six or more different licensees may form a water users' community. Generally the benefit to licensees is the joint use of one water system to store and deliver drinking water.

Water users' communities are operated by a manager or committee of management that sets out their business in resolutions passed at general meetings. All matters are decided by a majority vote and each member's vote is weighted according to the quantity of water the member is entitled to divert. Water users' communities are funded by members. When funds are needed, the manager prepares an assessment showing the estimate needed and the amount payable by each member. Assessments are filed with the comptroller of water rights and can be appealed to the comptroller.

Water Utilities

In B.C. there are currently 166 privately owned water utilities serving approximately 20,000 households.[48] Under the *Water Utility Act*, a water utility is defined as a person (which includes a corporation) that owns or operates equipment or facilities for the delivery of domestic water to five or more people, or to a corporation, for compensation. Developers often create private water utilities to serve the needs of residents in rural areas where water service is a condition of subdivision approval, and no one else can provide it.

In addition to being regulated by a health authority, water utilities are regulated by the comptroller of water rights who ensures that water service is provided at a fair and reasonable price. Water utilities are allowed to charge rates that enable them to collect enough revenues to pay for operating costs, including management fees and contributions to future replacement of infrastructure.[49] Water utilities are not eligible for government funding such as infrastructure grants.

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[48] Figure was provided by the Office of the Comptroller of Water Rights, and is accurate as of May 26, 2008.

[49] See also *Water Utility Act*, R.S.B.C. 1996, c. 485, s. 1.

Have you ever wondered where your water comes from; been concerned about its smell, colour or taste; felt sick and thought that your water might be the reason; or wondered how your water is tested and what the results were? Have you had questions about a boil water or water quality advisory? Do you know who to contact if you have these kinds of questions or concerns? Do you know who your water supplier is? What if your water supplier is your neighbour? What would you do if your water supplier does not address your concerns? Who would you turn to?

This section of the report deals with how these questions, concerns and complaints are addressed in B.C. We look at the procedures and processes of water suppliers, the health authorities, the Ministry of Health and the Office of the Provincial Health Officer.

What to Do If You Have Questions, Concerns or Complaints

The first thing to do is contact your water supplier. If you don't know who that is, the information should be on your water bill. If you don't get a bill, your municipality, regional district or regional health authority should be able to advise you.[50] If you're not satisfied with your water supplier's response to your concerns, you can contact your local health authority office, as they are responsible for monitoring water suppliers. If you are not satisfied with the response from your local health authority office, you can take your issue to the provincial drinking water officer, who is responsible for monitoring compliance of drinking water officers with guidelines and directives established under the Act. If you believe that the health authority's, Ministry of Health's, or provincial health officer's response to your concerns is inadequate or unfair, you also have the option of making a complaint to the Office of the Ombudsman. Depending on the nature of the matter, you may also be able to seek judicial review.

Complaints about activities that can impact on drinking water sources including agriculture, mining, logging, and cattle grazing can be directed to Ministries responsible for those activities.

Informal Complaints Processes

While there are a number of processes in place to alert water suppliers and government officials to problems with water supply systems, there is also reliance on the public to report safety issues and concerns. This makes a clear, accessible, timely and effective process for receiving and responding to such complaints an integral part of water safety monitoring and enforcement.

"A complaint handling system is an organised way of responding to, recording and reporting and using complaints to improve service to customers. It includes procedures for customers to make complaints and guidelines for staff to resolve complaints, and provides information to managers and staff that can assist them to prevent customer dissatisfaction in the future."[1]

[1] New South Wales Ombudsman, *Effective Complaint Handling* (2004), 2.

[50] Their numbers can usually be found in the blue pages of your telephone directory, as well as online.

Any effective complaints system will include the following:

- a publicly available complaints policy;
- the definition of a complaint;[51]
- information that a complaint can be made and how to do it;[52]
- an understandable process including who will review the complaint and what options are available if the person remains dissatisfied at the conclusion of the review;[53]
- a database for recording, tracking and analysing complaint information;[54]
- guidelines for staff on how to respond to complaints that outline the steps to be taken once a complaint is received;
- staff training on how to respond to complaints; and[55]
- performance standards for complaint handling.[56]

When is a complaint a complaint?

A common concern expressed by health authority staff related to the lack of a clear definition of what constitutes a complaint. We were told that the lack of a definition led to inconsistent responses and to an inability to properly track and analyze complaints. One drinking water officer provided the following comments regarding the definition of a complaint:

> *The issue of tracking complaints may require some consensus on developing a common understanding or definition of a 'complaint'. … As an example we have in the past experienced some service delivery failures related to issuance of Construction Permits. Complaints of this nature are far different from those from the public who may have water quality concerns. Frequently it is difficult to differentiate between a complaint and an inquiry.*

Informal, that is non-legislated, procedures are available to have questions, concerns or complaints addressed by water suppliers, health authorities, and the Ministries of Health and Environment.

Water Suppliers

Water suppliers are the first level of response if you have questions, concerns or complaints about the safety of your drinking water. Your opportunity to pose a question or register a concern or complaint, as well as the response you receive, will often depend on where you live and who your water supplier is. Your water supplier could be your neighbour, an improvement district, or your municipal or regional government. You may be able to communicate online, speak to someone on the phone or in person, or attend public

[51] Often this requires a process for identifying when communication phrased as a question, concern or suggestion is really a complaint.

[52] This information should be available online, as well as in print form. Verbal and written options should be available so that there are no literacy barriers.

[53] The process should also outline what options are available if the complaint can't be resolved within the agency.

[54] Recording and analyzing the types of complaints, as well as their outcomes, can provide guidance on how to improve efficiency, offer higher quality services and foster improved relationships with the public.

[55] Staff should have the authority to take remedial action in response to complaints, where appropriate.

[56] These should include time frames, and periodic reviews to make sure these goals are being met.

meetings. If, however, your water system is small or run on a volunteer basis by your neighbours, both your ability to communicate and the response you receive can be impacted by matters such as limited hours of opening, vacation schedules or neighbourhood conflict.

Health Authorities

If contacting your water supplier hasn't produced a satisfactory resolution to your problem, or you don't know who your water supplier is, the next step is to contact the local office of your regional health authority. The regional health authorities are responsible for administering the *Drinking Water Protection Act* (*DWPA*) and regulating water suppliers.

In the course of this investigation, we reviewed information from the five regional health authorities relating to how they respond to complaints about drinking water issues. Specifically, we looked at

- how the public is informed about making a complaint;
- whether they have a written complaints policy, and if so, whether the policy is specific to drinking water complaints;
- what the process is for responding to complaints;
- how many drinking water-related complaints they have received since the *DWPA* came into force; and
- how complaints are tracked.

Each of the regional health authorities told us that their contact information is on their websites, in the blue pages, and on the Ministry of Health's website. They also all said they receive referrals from water suppliers, and others.

Table 1 — Drinking Water Complaints Processes by Health Authority

Health authority	How are people informed about the complaints process?	Complaints policy?	Is there a complaint form for the public's use?	How many complaints received between May 16, 2003 and Dec. 31, 2007?	How are complaints tracked ?
Fraser	Not specifically informed.[1]	No.	No, but staff use an internal intake form. Currently field testing a water- specific intake form.	27 regarding small water systems. 76 regarding other water systems.	In an electronic database, with the capacity to create reports.
Interior	Not specifically informed.	Yes, but not specific to drinking water.	No.	Unable to provide the number because they don't track electronically.	Recorded on physical files and log books.

Health authority	How are people informed about the complaints process?	Complaints policy?	Is there a complaint form for the public's use?	How many complaints received between May 16, 2003 and Dec. 31, 2007?	How are complaints tracked ?
Northern	Not specifically informed.	Yes, but not specific to drinking water.	No.	92 complaints/inquiries received in 2007.[2]	In electronic database, but no capacity to create reports by subject area.
Vancouver Coastal	Website has a form for complaints, comments and feedback, which has information on how to make a complaint.	No, but considering developing one.	Yes, it is available online.	Unable to provide a precise answer because of the way information is tracked.[3]	In two electronic databases, but plan to upgrade to one database.
Vancouver Island	Not specifically informed.	No.	No, but staff use an internal intake form.	Unable to provide a complete list because this information is not consistently entered in its database.[4]	In electronic database, but not consistently used by staff.

1 FHA's Health Protection website includes a statement directing people to call a toll-free number if they have questions, queries or complaints.

2 Information was not provided for 2003-2006. NHA staff explained that they have been using a database to track inquiries and complaints since July 2006, but are not currently able to produce reports on these topics. In order to give us the number of complaints and inquiries received in 2007, NHA staff had to put the information into a spreadsheet, which is a time-consuming process. They are working on developing faster and more efficient methods of retrieving information about complaints.

3 VCHA said it could not provide the precise number of complaints received because they have been recorded in different ways (e.g., log books, notes to file and e-mails, or referred to water purveyors for follow-up). To ensure future complaints are all filed in one place, VCHA staff have now been told to complete a complaint form for each drinking water complaint received.

4 VIHA gave our office a list of 29 drinking water complaints received between May 2003 and January 2008, but noted that it was incomplete, because staff do not consistently enter this type of information in their database. VIHA staff told us that they recognize that there is a gap in their data collection and that they are considering modifying their database so that in the future they can also track inquiries and less formal complaints.

Only VCHA has a complaint form on its website. None of the health authorities has brochures, fact sheets or other written information about how to make a drinking water complaint or a complaints policy specific to drinking water, but IHA and NHA do have policies that apply to all complaints they handle. Most of the authorities also acknowledged that they could improve how they log and track complaints. This is reflected in the fact that some of the health authorities were unable to even provide us with statistics on the number

of complaints they receive. In one case, health authority staff told us that if they wanted to know how many drinking water complaints they had received in the past five years, they would have to conduct a search of all the paper files relating to the water systems they monitor, which would require a lot of work. It was not something the health authority did itself on a routine basis.

Ministry of Health

The Drinking Water Program is part of the Ministry of Health's Environmental Health Protection Program. If a person wants to complain to the Drinking Water Program, contact information is on the ministry's website. The ministry does not have a formal written policy for responding to complaints.

The ministry logs all inquiries and complaints in the government software program that is used to track correspondence.[57] The ministry's standard for responding to written correspondence is 15 working days. When the ministry receives correspondence about drinking water, it is forwarded to the Health Protection Branch. Depending on the nature of the inquiry or complaint, the ministry may instead refer the matter to a drinking water contact at one of the health authorities.

Office of the Provincial Health Officer

The Office of the Provincial Health Officer receives complaints, questions and concerns about drinking water from a variety of individuals and groups, including the public, water suppliers, industry and advocacy groups, and laboratories. It receives complaints by mail, e-mail and telephone.

The provincial health officer's general practice is to respond to complaints in the same manner in which they were made. Typically, therefore, only written complaints receive written responses. The provincial health officer's office may refer the complainant to

- an employee's supervisor;
- a statutory decision maker;
- a formal method of complaint under the Act;
- the Drinking Water Leadership Council;
- the Directors' Inter-Ministry Committee on Drinking Water; or
- the Assistant Deputy Ministers' Committee on Water.

The provincial health officer does not have a system for tracking inquiries or complaints, or a formal written policy for receiving, responding to or tracking complaints. Given that the provincial health officer is responsible for monitoring drinking water officers' compliance with the guidelines, our view is that it would be helpful for the Office of the Provincial Health Officer to have a formal complaints policy. Ideally, this policy would articulate the types of complaints it can deal with and how they are handled.

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[57] The Ministry of Health logs all contacts, including telephone calls, complaints, and inquiries, in its CLIFF database. This database does not differentiate between complaints and inquiries.

Ombudsman Finding

F1 The regional health authorities do not have accessible, understandable and consistent complaints processes because they:

- do not provide adequate information to the public about how to make a complaint and the process followed once a complaint is received;
- are not guided by policy or guidelines that outline how staff will accept and respond to complaints; and
- with the exception of the Fraser Health Authority, do not consistently record and track complaints on a database or other reliable and readily accessible mechanism that can produce reports.

Ombudsman Recommendations

R1.1 The regional health authorities, the Ministry of Health and the provincial health officer develop accessible, understandable and consistent written policies on receiving and responding to drinking water complaints and make these publicly accessible, by December 1, 2008.

R1.2 The IHA, NHA, VCHA, VIHA, Ministry of Health and the provincial health officer develop systems to electronically record and track drinking water complaints and generate reports, by June 1, 2009.

Formal Complaints Under the *DWPA*

The *DWPA* provides three formal ways to address concerns:

- Requests for investigation — If you believe there is a threat to your drinking water, you can request an investigation under section 29 of the *DWPA* by contacting your local health authority. It is best to put your request for an investigation in writing, and to include information about why you believe there is a threat to your drinking water.
- Requests for reconsideration — If you have received a decision under sections 19 (drinking water officer authority in relation to assessments); 25 (hazard abatement and prevention orders); 26 (orders respecting contraventions); or from the minister under section 31(4) (request respecting plan initiation); and you have new information, you can request that the decision be reconsidered by a drinking water officer.
- Requests for review — If you have a received a decision under sections 19, 25, 26, 31(4), or a reconsideration decision, you can request that the decision be reviewed by the provincial health officer. Reviews are based on the existing record, which means that no new information may be presented. Reviews are conducted by the provincial health officer or a medical health officer designated by the provincial health officer.

Section 29 Requests for Investigation

There are many situations that might prompt someone to request an investigation under section 29. Examples include cases in which water supplies may be affected by logging, cattle grazing, or recreational use, or concerns about changes in the quality of water or the operation of a water supply system. A person may also request an investigation if they are concerned about a private water system, including a single-family residence. In one case, a person whose water came from a well on his own property requested an investigation because he had reason to believe that his neighbour's business was threatening his drinking water. Under section 29 of the *DWPA*, anyone in these kinds of situations can request their local health authority to investigate.

A resident of a small community wrote to her health authority to express concern and request an investigation about the effect that logging of a woodlot would have on a nearby wetland area, and the quality and quantity of local drinking water.

The health authority conducted an investigation, which included a review of relevant documentation, a meeting and a field trip. In the end, the health authority concluded that the planned logging did not represent either a health hazard or a significant risk of an imminent health hazard, and informed the resident of this in writing.

Although the *DWPA* requires requests for investigation to be in writing, the *Drinking Water Officers' Guide* says requests for investigation can be made either orally or in writing. The *Guide* notes that if a request is only made orally, the formal provisions of section 29, including the right to a response, don't apply. An officer may also ask for an oral request to be put in writing. The Act indicates that a person must include specifics of the facts that he or she considers to constitute a threat. Neither the Act nor the *Guide*, however, elaborate on how much information someone is required to submit with a request for investigation.

A drinking water officer will receive a request for investigation, and under the Act, must review it and decide whether one is warranted. The *Guide* says an officer must consider all relevant information when making this decision, including

- whether the request for an investigation includes credible information to suggest that a threat may exist;
- any information that the drinking water officer has on file in respect of the water supply system and prior dealing with the water supply system or owner;
- the degree of potential harm that could occur if a threat complained of does exist or comes into existence;
- the history of the drinking water officers' dealings with the person requesting the investigation;
- the extent to which the matter has already been reviewed; and
- the extent to which the matter is being or will be investigated by another agency with related authority.[58]

If a drinking water officer decides not to conduct an investigation, an explanation with reasons must be provided to the person who requested it. If the officer decides an investigation is warranted, he or she must contact the person who requested it and advise them of the results. There is no right to a review of a decision made under section 29.

[58] Drinking Water Leadership Council, *Drinking Water Officers' Guide* (2007), 68-69.

Health Authorities

We reviewed information from each of the five regional health authorities about requests for investigation under section 29 of the Act. Specifically we looked at

- how people are informed or made aware that they can request an investigation;
- how many requests for investigation have been received since the *DWPA* came into force;
- how the health authority responds to and tracks requests for investigation; and
- copies of all files where a person had requested an investigation.

Table Two summarizes the results. Most health authorities pointed out that information about how to request an investigation is in section 29 of the *DWPA* and in the *Drinking Water Officers' Guide*, both of which are available on the Ministry of Health's website, and a number said that their staff provided information about the Act when meeting with water suppliers and community organizations.

Table 2 — Requests for Investigation Under Section 29 of the *DWPA*

Health authority	How are people informed about the option to request a section 29 investigation?	How many requests for section 29 investigations received?	How many section 29 investigations conducted?	How are requests for section 29 investigations tracked?
Fraser	Orally, when staff think it's appropriate.	0	0	No system in place because it has never received a request.
Interior	Orally, when staff think it's appropriate, and with printed information.[1]	4	1	In paper file.
Northern	Orally, when staff think it's appropriate.	1	1	In drinking water officers' log books and in a database as a note on the water system's file.
Vancouver Coastal	Orally, when staff think it's appropriate.	0	0	No system in place because it has never received a request.
Vancouver Island	Orally, when staff think it's appropriate.	0	0	By regional drinking water consultant.

[1] IHA has a booklet called, *Drinking Water Quality Improvement Program: Conditions on Operating Permit*, (2006) which was approved by the regional director of health protection and senior medical health officer. It contains information about requesting an investigation under section 29.

As Table Two indicates, according to the records of the five regional health authorities, there have been only five section 29 requests and two section 29 investigations conducted since the *DWPA* came into force on May 16, 2003. Clearly, this is not a well-used option for dealing with concerns about drinking water safety. We found that surprising given the intent of the section, the number of concerns expressed publicly and the number of reports issued in the past five years.

Processes can only work if the public knows about them in the first place. The low number of requests may be due to very few people knowing this option is available to them. As illustrated above, for the most part, health authorities rely on their staff to inform the public of their right to request an investigation. Although staff may inform people about section 29 requests, they are not required to do so and the *Guide* does not lay out the circumstances under which it may be appropriate to do so. In addition, there is little written information available to the public about section 29 requests. Although the *Guide* is available online, the average person with a concern about their drinking water is unlikely to read it or even realize it's there at all.

Many health authorities found it difficult to answer our questions about the number of requests for section 29 investigations they had received. This is because for the most part, they don't track these requests electronically. Some health authorities had to review their physical files, while others relied on the memories of staff. The number of requests for investigations received, therefore, may be underreported. If that is the case, then that raises another concern, that quite simply the major tool available to the public under the *DWPA* to raise concerns is not being accurately tracked.

Only two investigations have actually been conducted in response to section 29 requests since the *DWPA* came into force. While the decision to conduct an investigation is entirely discretionary, the *Drinking Water Officers' Guide* does include guidelines, as discussed above. One reason for the low numbers may be that the *DWPA* and the *Drinking Water Officers' Guide* are silent on the extent of information a person needs to provide with their request for investigation. We reviewed examples in which the health authority decided not to investigate because the person making the request did not provide what was considered to be adequate information demonstrating a health risk.

In one case, a resident whose drinking water comes from a shallow well had a neighbour who was proposing to install a septic field.

Fraser Health Authority has developed a five-page questionnaire to assist people requesting an investigation under section 29 of the Act to provide information a drinking water officer would find useful in determining whether to conduct an investigation. The questionnaire asks for information about

- *the drinking water source;*
- *wells (if applicable);*
- *water distribution pipes;*
- *how the water is stored;*
- *treatment;*
- *possible sources of contamination;*
- *concerns with taste, odour or appearance;*
- *illnesses from drinking water;*
- *water quality tests;*
- *groundwater assessments; and*
- *any other evidence that supports the concerns.*

If used consistently, this type of questionnaire would assist people requesting an investigation under section 29 to provide relevant information and would assist drinking water officers to obtain the information required to determine whether to conduct an investigation.

Since the septic field would be only several hundred feet away from the well, the resident was concerned about possible contamination, especially since both properties are part of an old flood plain. The resident sent a written request for an investigation to the health authority. The health authority refused to investigate, saying there was no evidence to suggest either a drinking water health hazard, or a significant risk of one, existed. The health authority indicated it would reassess its decision if new evidence, such as a hydrologist's report, linking the septic system to the well was provided by the person requesting the section 29 investigation, at his or her own expense.

We reviewed other examples in which a health authority advised a person requesting an investigation to submit a hydrology report if they wanted further action. These examples suggest a high burden of proof is being placed on the few people who do request investigations.

Is this the process envisioned by the legislature when it enacted section 29 of the *DWPA*? To answer this question, it is important to consider how the *DWPA* defines "threat."

In section 1 of the *DWPA*, the term "threat" is defined very broadly to mean, "a condition or thing, or circumstances that may lead to a condition or thing, that may result in drinking water provided by a domestic water system not being potable water."

However, in the example above, the health authority decided not to investigate because the person requesting the investigation did not provide evidence of either an existing hazard, or a significant risk of one. It appears that the standard applied by the health authority in this example was beyond that required by the *DWPA*.

The word "investigation" is also important in this context, especially in how its meaning differs from the meaning of "inspection." The *Drinking Water Officers' Guide* provides the following explanation:

> An investigation differs from inspection in that an inspection is undertaken solely for the purpose of monitoring and assessing compliance and threats. An investigation, by contrast, occurs when an official has some reason to believe that a form of non-compliance exists, and the investigation is used to determine whether and to what extent this is the case, and to assemble evidence necessary to take remedial or enforcement action as appropriate.[59]

Using this definition, an investigation under section 29 is conducted with the goal of gathering evidence to support enforcement action. However, based on our review, the only two investigations conducted so far appear to have been more akin to inspections, in that they were focused on identifying threats and assessing compliance, rather than on assembling evidence. This may point to a need for further clarification of the intent of section 29.

[59] Drinking Water Leadership Council, *Drinking Water Officers' Guide* (2007), 67.

Ombudsman Findings

F2 The Ministry of Health has not provided clear guidelines with respect to the standards of information required for requests for investigations under section 29 of the *Drinking Water Protection Act*.

F3 The regional health authorities do not provide adequate information to the public about the right to request an investigation under section 29 of the *DWPA*.

F4 The regional health authorities do not have adequate procedures or systems in place to track requests for section 29 investigations.

Ombudsman Recommendations

R2 The Ministry of Health provide clarification to the regional health authorities about the application of section 29 of the *DWPA*, including setting out the type of information the regional health authorities might reasonably require in order to make a decision, by September 1, 2008.

R3 The regional health authorities develop written material informing people of the right to request an investigation under section 29 of the *DWPA* and the type of information to include with a request and make this information available to the public on their websites and in printed brochures, by December 1, 2008.

R4 The regional health authorities have a system in place to electronically track requests for section 29 investigations by December 1, 2008. The regional health authorities also identify and track requests that cannot be actioned.

Section 39.1 Requests for Reconsideration and Review

Drinking water officers regularly exercise discretion and make decisions under the *DWPA* and Regulation. Despite the considerable discretion exercised by the officers, the *DWPA* does not provide any right to appeal decisions of drinking water officers and only limited rights to reconsideration and review. There are many decisions under the Act to which the right to request reconsideration or review does not apply, including decisions made under section 29. It is important to note that the decisions open to reconsideration and review are decisions that predominantly affect water suppliers. The right to request reconsideration and review does not generally provide an avenue of recourse to members of the public with concerns about drinking water safety.

However, section 39.1 of the Act allows a person affected by a decision to request a reconsideration or review in relation to the decisions of drinking water officers to:

- order a water supplier to prepare an assessment of a drinking water system (section 19);
- issue a hazard abatement and prevention order (section 25);
- issue orders respecting contraventions of the *DWPA* (section 26); and

- request that the provincial health officer recommend the minister to designate an area for the purpose of developing a drinking water protection plan.[60]

While the *DWPA* specifies that only a person affected by a decision can request reconsideration and review, it does not specify who is affected by a decision. Nor does the *Drinking Water Officers' Guide* provide any guidance on who may be "affected" by a decision. This decision is left to the discretion of the drinking water officer.

For example, a drinking water officer issued an order to a water supplier under section 25 of the *DWPA* because he believed that the proposed construction of a public road could affect the water in the water supplier's well. The officer ordered the water supplier to hire a professional engineer or hydrologist to assess the risk to the well. The drinking water officer also ordered the water supplier to advise the health authority as to how it would proceed by a specific date, and to complete the assessment by a specific date. The officer's decision was open to review, and if the water supplier had new information, to reconsideration.

A request for reconsideration can be made any time after a drinking water officer has made one of the types of decisions noted above. To request reconsideration a person must provide new evidence that would justify the officer changing, reversing or varying the decision. The *Drinking Water Officers' Guide* defines new evidence as, "evidence that was not provided to or considered by the drinking water officer when the original decision was made."[61] Appendix 29 of the *Drinking Water Officers' Guide* contains a request for reconsideration form that officers can encourage, but not require, people to use.

Reviews are different from reconsiderations in that they are not conducted by the original decision-maker, but instead by the provincial health officer or a designated medical health officer. They are also conducted on the record, which means that no new information or evidence can be submitted. Requests for reviews should be sent directly to the provincial health officer. Appendix 30 of the *Drinking Water Officers' Guide* contains a form that people are encouraged, but not required, to use when requesting a review. The provincial health officer may undertake the review him or herself or may direct a medical health officer to do it. A review can result in the original decision being confirmed, varied, reversed or referred back to the drinking water officer.

In the course of our investigation we requested information from each of the five regional health authorities regarding section 39.1 requests for reconsideration. Specifically we asked

- how people are informed or made aware that they can request reconsideration;
- how many requests for reconsideration have been received and how many reconsiderations have been conducted since the *DWPA* came into force;
- how the health authority tracks requests for reconsideration; and
- for copies of all files where a person has requested reconsideration.

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[60] Section 31 of the *Drinking Water Protection Act* (*DWPA*) allows for the Minister of Health, on the recommendation of the provincial health officer, to designate an area for the purpose of developing a drinking water protection plan. The provincial health officer may recommend this if he or she is satisfied that a protection plan would help address or prevent a threat to drinking water, and that no other measures under the *DWPA* are available to address that threat. In deciding whether to recommend that this step be taken, section 31(3) says the provincial health officer must consider whether to make a recommendation, if requested by a drinking water officer. While section 31(4) says a local authority or a water supplier may ask a drinking water officer to request such a recommendation, the decision about whether to do so is at the officer's discretion. It is this decision by a drinking water officer that is open to reconsideration or review.

[61] Drinking Water Leadership Council, *Drinking Water Officers' Guide* (2007), 117.

Most health authorities told us that orders are issued in writing and that those issued under sections 19, 25, 26 and 31(4) would contain standard wording about the right to request reconsideration. It was also noted that information about section 39.1 of the *DWPA* is in the *Drinking Water Officers' Guide*.

Table 3 — Requests for Reconsideration

Health authority	Number of requests for reconsideration received	Number of orders issued under sections 19, 25, 26, 31(4)	How requests for reconsideration are tracked
Fraser	0	3	No system in place because none received.
Interior	0	Unable to provide a number, as orders are not tracked electronically.	No system in place because none received.
Northern	0	Estimated 4[1]	No system in place because none received.
Vancouver Coastal	0	Estimated 6[2]	No system in place because none received.
Vancouver Island	0	1	The regional drinking water consultant is responsible for tracking.

[1] We estimated the number from the files we were provided.
[2] We estimated the number from the files we were provided.

The Office of the Provincial Health Officer informed us that as of December 13, 2007, it had not received any requests for a review of a decision under section 39.1 of the Act.

In the five years that the *DWPA* has been in force, there has never been a request for reconsideration or review under section 39.1 of the *DWPA*. There may be a number of reasons for this.

Very few orders have been issued under sections 19, 25, 26, or 31(4) of the *DWPA*. Many drinking water officers strive to obtain voluntary compliance from water suppliers and only issue orders as a last resort. When a drinking water officer requests that a water supplier take action rather than orders them to do so this eliminates any right to request reconsideration.

Although drinking water officers can order water suppliers to provide public notice of water safety or quality concerns under sections 25 and 26 of the *DWPA*, it appears that they often do so instead under section 14 of the *DWPA*. While section 14 establishes a lower standard on its face, where possible, public notice should be ordered under sections 25 or 26 of the *DWPA*.[62] This would provide a person affected with the ability to request reconsideration and/or review of the decision.

[62] Under section 14 of the *DWPA*, the drinking water officer may request or order a water supplier to give public notice if the drinking water officer has received a report under section 12 or 13, or if the drinking water officer considers that there is, was, or may be, a threat to the drinking water provided by a water supply system.

Investigation

In addition, we observed that the orders that were issued did not consistently provide information about the right to request reconsideration or review. Some orders do not contain any such information. The *Drinking Water Officers' Guide* contains templates for orders issued under sections 19, 25, and 26 of the *DWPA*.

The templates for orders issued under sections 25 and 26 contain the following wording:

> You may request that I reconsider this decision if you believe that there is sufficient new evidence for this purpose. You may also request that this decision be reviewed by the provincial health officer or a medical health officer nominated by him.
>
> If you wish to make a request for reconsideration or review, please review Section 39.1 of the *Drinking Water Protection Act*. I can also provide you with forms if you wish, but there is no requirement to use a specific form.
>
> Please note that a request for reconsideration or review does not put the Order into abeyance while any such request is considered. If you believe that the Order should be deferred while a review or reconsideration is requested, please advise me accordingly and I will consider whether to amend the Order accordingly. Unless I do so, the Order remains in force during any period of review or reconsideration.

However, while the orders issued under section 19 may also be reconsidered or reviewed, the template for these orders does not contain the above wording.

Some orders we reviewed included the following wording:

> In accordance with Section 39.1(2) of the Act you may request a reconsideration or review of this decision if you believe that there is sufficient new evidence for this purpose. Please note however that a request for reconsideration or review does not put the Order into abeyance while any such request is considered.

While it is encouraging to see that these orders contain information about the right to request reconsideration or review, the information provided in this example is not completely accurate, because it suggests that new evidence is required to request a review, which is not the case. While new evidence is required to request reconsideration, as discussed above, reviews are conducted on the record.

In addition, we reviewed examples where an officer included a deadline for receipt of a request for reconsideration. In fact there is no statutory authority for imposing a time frame within which a reconsideration must be received.

We know that at least one health authority offers to conduct administrative reviews of decisions made by drinking water officers. These reviews are conducted by senior management in the health authority. Staff told our office that in some cases it is helpful to offer a review by senior management of decisions made by drinking water officers. While it is encouraging to see that this health authority is proactively providing another level of review, it should be careful in doing so to not circumvent the right to a review by the provincial health officer.

Finally, it appears that reconsiderations are almost always conducted by the original decision maker. With respect to who should conduct the reconsideration, the *Drinking Water Officers' Guide* says:

> Reconsideration of decisions should be made by the drinking water officer that made the original decision, unless the drinking water officer is not available to make the reconsideration decision within a reasonable period of time (for example, if the drinking water officer is on extended leave). In that case, another drinking water officer may consider the request for reconsideration.

The principles of administrative fairness entitle a person to an unbiased decision-maker. This means the decision-maker should not have any interest in the outcome of the decision nor should he or she show any pre-judgement of the issue to be decided. We believe that where it is practical, reconsiderations should be conducted by a different drinking water officer.

Ombudsman Findings

F5 The *Drinking Water Officers' Guide* provides inadequate direction with respect to when an original decision maker should reconsider his or her own decision.

F6 There are very few decisions that are open to reconsideration or review under section 39.1.

F7 The regional health authorities do not adequately and consistently inform people about their right to request reconsideration or review of decisions under section 39.1.

Ombudsman Recommendations

R5 The Ministry of Health take necessary action to ensure that reconsiderations are conducted by new decision makers, by January 1, 2010.

R6 The Ministry of Health consider expanding decisions that are open to reconsideration and review, such as decisions made under section 29.

R7 All orders issued under sections 19, 25, 26, and 31(4) be in writing and contain accurate and complete information about the right to request reconsideration and review.

Conclusion

As we have already seen, although drinking water officers exercise considerable discretion, the *DWPA* does not provide a right to appeal their decisions, and only very limited opportunities to request reconsideration, review, or an investigation. This leaves the public reliant on the effectiveness of the available informal complaints resolution processes and highlights the importance of established, timely and effective processes for responding to complaints. As indicated above, complaints processes should include information for the public about how to complain, an understandable process, a database for recording and tracking complaints, guidelines and training for staff, and a complaints policy.

While each of the authorities discussed above has an informal complaints process, we believe that improvements can be made to make these more accessible and effective. Improvements to complaints tracking would also provide each of the authorities with the ability to analyse trends and identify systemic problems.

Investigation

Do you know if your drinking water system is under a boil water or water quality advisory? Does your water supplier have your current contact information? Do you know how you would be notified of a problem? Are you in the category of at-risk people who need timely notification? Is there up-to-date information about your water system available online? As with so many other important questions of drinking water safety, the answers will depend on where you live. We looked at water advisories—how, when, where, why, and by whom they are issued.

Who is Responsible for Issuing Public Advisories and Notices?

The *Drinking Water Protection Act (DWPA)* requires that water suppliers issue public notice about threats to the drinking water they supply, and about any possible health hazards. The terms "notice" and "advisory" are used in different ways by different authorities. Of the five regional health authorities, FHA, NHA and VCHA use the term "boil water advisory", while IHA and VIHA use the term "boil water notice." These terms refer to the same form of public notice. All of the regional health authorities use the term "water quality advisory" to describe a public notice of a water quality concern. While consistency in the terminology used by the regional health authorities would be helpful, for the purposes of this report we have adopted the terms "boil water advisory" and "water quality advisory" because they are the terms used by the majority of health authorities.

In British Columbia, individual water suppliers are responsible for notifying their customers of any safety or quality concerns. Section 12 of the *DWPA* also requires laboratories to immediately notify water suppliers when sampling shows they're failing to meet a reporting standard.[63] The Ministry of Health has identified the following as examples of emergency situations requiring notice: the contamination or loss of a water source, backflow conditions, flooding, broken water mains, mudslides above an intake, pump failure, chlorine gas leaks, fire and earthquake.[64]

The *Drinking Water Officers' Guide* does not specify the methods that suppliers should use to notify their customers about problems with their drinking water, however, below are the typical methods used by water suppliers:

In responses to our online questionnaire, some people were critical of the notification methods used by their water suppliers, and believed that the information could be shared in ways that were more effective and timely. One respondent described how, after several customers complained to their supplier about the need for an updated emergency notification process, the supplier registered for a new, automated phone and e-mail alert system. The residents were pleased with the changes and by the fact that the supplier had listened to their concerns.

Other people said they weren't notified of boil water advisories until several days had passed. One person said it took one month before he found out his water was under a boil advisory. A common complaint was that newspaper notices only reach those who read that paper, and radio messages only those who happen to listen when the information is broadcast.

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[63] An example of this is when samples exceed the acceptable level of E. coli or total coliforms.

[64] Ministry of Health, *Emergency Response Planning for Small Waterworks Systems* (1994). The *Drinking Water Officers' Guide* gives examples of when suppliers should notify their customers of threats to their drinking water. It suggests that drinking water officers who need additional guidance on when to issue or remove advisories consult the document, Guidance for Issuing and Rescinding Boil Water Advisories, which is available from Health Canada.

- Telephone — Most operators have a list of their customers' phone numbers. Some take the precaution of recording up to three phone numbers for each customer.
- Reverse 9-1-1 system — Some suppliers have registered with an emergency telephone messaging service. Their customers can then register their phone numbers so that if there's an emergency, the operator can activate the messaging system and alert everyone at once.
- Door-to-door — When telephone notification has failed, many operators, especially in small communities, will go to their customers' homes.
- Signs — Prominent posters in places frequented by customers (e.g., mailboxes).
- Radio and/or newspaper advertisements — These are usually not affordable for small systems.
- Internet and e-mail — Increasingly, suppliers are using websites and e-mail to provide information about drinking water to customers. Small systems typically do not have the resources to do this.

While water suppliers are responsible for the timely notification of their customers, health authorities and their drinking water officers are responsible for ensuring that suppliers have issued advisories when necessary. Under section 14(1) of the *DWPA*, a drinking water officer can either request or order a water supplier to give public notice to its customers if the officer

- has received a lab report indicating that a reporting standard has not been met;
- has received a report about threats to drinking water from a supplier; or
- believes the safety of a system either is, or could be threatened.

However, a report of a threat doesn't always result in a drinking water officer requesting or ordering a water supplier to give public notice. Sometimes the officer can address the threat in a more direct way, such as by obtaining voluntary compliance from the water supplier.

Section 14(2) of the *DWPA* requires a water supplier to provide public notice even when there has been no request or order made by a drinking water officer, if the water supplier has received a report that a reporting standard has not been met, or if the water supplier considers there may be a health hazard in relation to the drinking water and is not able to immediately contact a drinking water officer.

In addition, under sections 25 or 26, a drinking water officer can issue hazard abatement or prevention orders, or require a water supplier to provide public notice of the hazards identified under these sections.

In some cases, such as emergencies, or when dealing with remote populations, health authorities may help suppliers inform the public about the notice or advisory. In these situations, quickly getting the message to all affected people usually requires a concerted and cooperative effort by health authorities and water suppliers.

Boil Water Advisories

In August 2001, there were 304 boil water advisories in effect in British Columbia. In November 2003, six months after the *DWPA* and *DWPR* had come into force, there were 393.[65] As of May 2008, there were 528 boil water advisories in effect in B.C.[66] Boil water advisories are issued when there is a high risk that drinking water is contaminated by microbiological pathogens. In this case, the public is warned to either boil or otherwise disinfect water before drinking it. Some health authorities order a "do not drink water notice" (also called a "do not use water notice" or "restricted use notice"). This type of notice is used when a boil water advisory is deemed inadequate to address the health risk posed by contaminated water.

Almost all of the systems on long-term boil water advisories in the Northern region are small systems serving recreational or seasonal facilities such as campgrounds, RV parks, inns, lodges and resorts. NHA explained that, when a boil water advisory is issued for these facilities, it requires system operators to post the advisories. One problem with this method of notification is that the advisories often come down or are taken down prematurely, and then not replaced. To combat this, in April 2007, the NHA sent letters to every recreational and seasonal water supplier on a boil water advisory. The letters directed the operators to post visible signs at the facilities' entrances or other locations approved by the environmental health officer. The signs were to read, "CAUTION - WATER AT THIS FACILITY IS UNSAFE TO DRINK UNLESS BOILED." They had to be posted by April 30, 2007, or at the start of seasonal operations, whichever came first. Over that summer NHA staff visited all the sites to ensure compliance and found that all but one operator had heeded the order. This one was ordered to do so, and then did comply.

Common situations in which a boil water advisory may be issued include:

- E. coli bacteria are present in the water supply in greater amounts than the limits prescribed in the Regulation;[67]
- drinking water from a surface source or shallow well is not disinfected;
- treatment or distribution system failure;
- evidence of improper or irregular operation or maintenance (in the case of a public water supply);
- high turbidity; and
- a confirmed or suspected water-borne disease outbreak.

Boil water advisories are supposed to be temporary fixes, but in cases where a quality or safety problem is not resolved, may last for weeks, months or even years. Usually it is small water systems that are subject to long-term boil water advisories.

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[65] Office of the Provincial Health Officer, *Progress on the Action Plan for Safe Drinking Water in British Columbia* (2006), 5.

[66] Figures were provided by the regional health authorities and are accurate as of May 2008. There were also 49 water quality advisories and one "do not use" advisory in effect at this time.

[67] For more details, see the Glossary.

Water Quality Advisories

As of May 2008, there were 49 water quality advisories in effect in B.C.[68] Water quality advisories are another type of public notification of problems with drinking water. They are meant to alert the public of a moderate risk that their drinking water is contaminated by either chemicals or micro-organisms, such as bacteria. Chemical contamination of water can be caused by natural sources, such as bedrock with high concentrations of uranium or arsenic, or from human activities such as agricultural, industrial, or recreational practices.

Frequency of Advisory Updates

The regional health authorities all post on their websites the boil water advisories issued by water suppliers in their respective health regions. Some health authorities also publish water quality advisories. We reviewed health authorities' approaches to recording information about advisories and how often they were updated online. Table Four sets out the results:

Table 4 — Health Authority Information about Boil Water and Water Quality Advisories

Health authority	What advisories are posted on health authorities' websites?	How often are the advisory listings on the web sites updated?
Fraser	Boil water advisories.	Boil water advisories are posted immediately after they're issued. The advisory listings are updated every 48 hours.[1]
Interior	Boil water advisories and water quality advisories.	Boil water advisories and water quality advisories are updated on a quarterly basis.[2]
Northern	Boil water advisories.	Boil water advisories are updated as soon as possible and once a day at a minimum.[3]
Vancouver Coastal	Boil water advisories and water quality advisories.	Boil water advisories are updated as soon as a new advisory is issued or rescinded.[4]
Vancouver Island	Boil water and water quality advisories.	Boil water and water quality advisories are updated within four hours of being issued or rescinded.[5]

[1] These listings can be viewed by following the links at <http://www.healthspace.ca/Clients/FHA/FHA_Website.nsf/Env-Frameset>. FHA uses HealthSpace, a health information database, to track the boil water advisories that are issued within its region. For more information on HealthSpace, see <http://www.healthspace.ca/Websites/HealthSpace/Website_CA.nsf/products.html>.

[2] These listings can be viewed by following the links at <http://www.interiorhealth.ca/Health+and+Safety/Drinking+Water/Notification+Listings/>. IHA uses Hedgehog, a different health information database to track the boil water advisories that are issued within its region. For more information about Hedgehog, see <http://www.decadesoftware.ca/products/>.

[3] These listings can be viewed by following the links at <http://www.healthspace.ca/nha>. NHA also uses the Healthspace database.

[4] These listings can be viewed by following the links at <http://www.vch.ca/environmental/drinking/index.htm>. Within VCHA, the Coast Garibaldi area uses the HealthSpace database, while the rest of the health authority uses the Hedgehog database.

[5] These listings can be viewed by following the links at <http://www.healthspace.ca/viha>. VIHA also uses the HealthSpace database.

[68] There were also 528 boil water advisories and one "do not use" advisory in effect at this time.

The IHA only updates the boil water advisories and water quality advisories on its website quarterly, so the addition of new information and the deletion of outdated material may not occur until several weeks after the notice or advisory is issued or rescinded. The IHA explained that:

> Our information system limitations and our procedures (e.g., Recording info on paper for subsequent data entry) cannot currently give us real-time information about water system advisories, especially in cases where there are different levels of notification on different parts of the same water system as is common during turbidity season.

In an era often referred to as "the information age," it appears that not all health authorities are taking advantage of technologies that would allow them to provide the public with direct and timely access to important and useful information about the quality and safety of their drinking water. While the primary responsibility to notify people of safety concerns rests with water suppliers, the health authorities' mandate is the protection of public health. In the area of drinking water safety, providing access to real-time information is critical to achieving that.

Ombudsman Findings

F8 IHA's online boil water and water quality advisory listings are not updated in a timely manner.

F9 FHA and NHA do not post water quality advisories on their websites.

Ombudsman Recommendations

R8 IHA's website be updated as soon as boil water advisories or water quality advisories are issued or rescinded.

R9 FHA and NHA post water quality advisories on their websites.

Turbidity and Advisories

The term "turbidity" describes the relative cloudiness of water.[69] Often, turbidity occurs when run-off from rain or melting snow carries fine particles of soil or organic matter into surface water. Less a health concern in itself, turbidity is considered an indicator of health risk, and so frequently prompts the issuing of water quality advisories. This is of particular concern to at-risk populations such as newborns, the elderly and people with compromised immune systems. The federal *Guidelines for Canadian Drinking Water Quality* provide that the maximum acceptable concentration of turbidity in water varies according to the type of filtration, with 1.0 NTU being the measurement for water with slow sand filtration.[70]

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[69] Turbidity is measured and reported in nephelometric turbidity units or NTUs, which indicate the degree to which water scatters and absorbs light rather than transmits it in straight lines. Levels can range from less than one NTU to more than 1,000 NTU. At five NTU water is visibly cloudy; at 25 NTU it is murky. For more information, see the *Glossary*.

[70] Health Canada, *Guidelines for Canadian Drinking Water Quality*, <http://www.hc-sc.gc.ca/ewh-semt/alt_formats/hecs-sesc/pdf/pubs/water-eau/sum_guide-res_recom/summary-sommaire_e.pdf >, 4.

In the course of this investigation, we reviewed how and when the five regional health authorities determine a water quality advisory must be issued due to turbidity. Specifically, we looked at

- whether the health authorities had a written policy on turbidity;
- whether, in each health region, there is a threshold that triggers the issuing of water quality advisories due to turbidity; and
- what factors health authorities consider when deciding that water systems must issue water quality advisories due to turbidity.

Table 5 — Health Authority Water Quality Advisories on Turbidity

Health authority	Written policy on turbidity?	Level of turbidity (NTUs) that triggers a water quality advisory	What factors are considered before requiring a water quality advisory due to turbidity to be issued?
Fraser	No.[1]	No set level.	Refers to Health Canada's October 2003 *Guidelines for Canadian Drinking Water Quality*: Supporting Documentation — Turbidity for guidance.[2] Factors considered: • cause of the turbidity; • nature of the watershed and what contaminants it may be exposed to; • treatment; • distribution system maintenance; and • water quality monitoring.
Interior	Yes.[3]	Greater than one NTU.	Predominant consideration is the turbidity measurement.
Northern	No.	Greater than one NTU.	NHA relies on the *Drinking Water Officers' Guide*, the IHA's turbidity policy, and collaboration with the water systems.
Vancouver Coastal	No.	No set level.[4]	VCHA relies on the *Drinking Water Officers' Guide*, the IHA's turbidity policy and collaboration with the water systems. Other factors considered include: • the potential sources of contamination; • how the water facility responds to increased turbidity; • the maintenance of free chlorine within the distribution system,[5] and • the sampling results for both bacteria and parasites.

Health authority	Written policy on turbidity?	Level of turbidity (NTUs) that triggers a water quality advisory	What factors are considered before requiring a water quality advisory due to turbidity to be issued?
Vancouver Island	No.	Greater than one NTU.	VIHA's practice has been to consider each case on an individual basis. Factors considered include: • type of supply: e.g., creek, river or lake; • types of land-use in the watershed (e.g., livestock, logging, mining); • source(s) of turbidity in relation to water intake; • normal raw water quality; • storage capacity of finished water in the supply system; • type of disinfection treatment; and • type of distribution system. Other factors that have affected the medical health officer's decision include: • the fact that outbreaks of gastrointestinal disease have been associated with elevated turbidity in community water systems; • the lack of provincial guidelines; • recent turbidity and other water quality data (especially trends) from the source and treated water; • the weather forecast, if turbidity is weather-related; • the track record of the water system and its operator; • advice of the public health engineer if a system is complex; and • how long it will take to communicate a boil water notice versus how long will the threat will last.

[1] On December 19, 2007, FHA developed a guideline on "Issuing and Rescinding a Drinking Water Public Notice," which includes consideration of turbidity conditions.

[2] Health Canada, "Turbidity," <http://www.hc-sc.gc.ca/ewh-semt/alt_formats/hecs-sesc/pdf/pubs/water-eau/turbidity/turbidity_e.pdf>.

[3] Although its written materials all focus on the turbidity measurement, the Interior Health Authority has explained that it considers other factors including system size, residual chlorine levels and seasonal conditions in issuing turbidity advisories.

[4] When the health authority lifted a turbidity-related water advisory on November 26, 2007, the levels were 2.5 NTUs at the Coquitlam source and 7.09 NTUs at the Seymour source.

[5] Free chlorine is the active form of chlorine that actually kills bacteria and algae. The maintenance of free chlorine refers to chlorine remaining in the water after the treatment process. This is used as a monitoring measurement by system operators.

It is clear that the level of turbidity that will cause a water system to issue an advisory varies widely from one health authority to another. In one area, water suppliers were required to issue a water quality advisory when turbidity reached one NTU, while in another, an advisory was not required until turbidity reached 33 NTUs, and was rescinded when it dropped to seven.

While the federal *Guidelines for Canadian Drinking Water Quality* contain recommendations on the levels of turbidity at which water suppliers utilizing different treatment methods should notify the public about increased health risks, they are not binding. Of course, most health authorities do consider the *Guidelines*, together with a variety of other factors, when deciding whether to issue advisories. But given how widely these factors considered vary among the health authorities, it may be difficult for the public to be certain of the quality of their drinking water.

IHA launched an extensive campaign in March 2006 in which it proposed the use of a "turbidity index" throughout the region. Under this index, drinking water is considered "good" if it measures less than one NTU. Water suppliers have to advise their customers when their water quality is considered "fair" (measuring between one and five NTUs) and when it is considered "poor" (measuring greater than five NTUs). A "fair" rating requires a water quality advisory to be issued and a "poor" rating may result in a boil water advisory being issued.[1]

The usefulness of IHA's turbidity index is being debated. Some who responded to our online questionnaire were concerned that the index failed to account for other important factors that contribute to whether turbidity poses an actual health risk.

[1] Interior Health Authority, "Turbidity," <http://www.interiorhealth.ca/Health+and+Safety/Drinking+Water/Turbidity/>.

After consulting with the provincial health officer, the Minister of Health, pursuant to section 5 of the *DWPA*, established the Ministerial Technical Advisory Committee on Turbidity and Microbial Risk in Drinking Water to make findings and recommendations on advisories and turbidity levels. On March 13, 2008, the committee presented its final report to the minister with information on the following issues:

- the scientific relationships between turbidity in raw water supplies and microbial human health risk in drinking water; and
- advice and recommendations to the minister on scientifically-based approaches to protect public health through advisory mechanisms, to help guide future policy development.[71]

The report dealt with, among other issues, whether a certain NTU level in an unfiltered surface water source was in itself sufficient grounds for issuing a boil water or water quality advisory, or whether other indicators should also be considered. The report included the following findings:

[71] Ministerial Technical Advisory Committee, "Terms of Reference: BC Ministerial Technical Advisory Committee on Turbidity and Microbial Risk in Drinking Water," <http://www.health.gov.bc.ca/protect/pdf/Turbidity%20and%20Microbial%20Risk%20TOR.pdf>.

> Other than direct knowledge of an event [72] known to have compromised treatment or integrity of distribution in a drinking water system, no single source indicator, for source water or unfiltered treated water, is by itself a reliable criterion for issuing a water quality notice, unless there is an empirically demonstrated relationship between turbidity and/or microbial load for the specific system in question....
>
> Where disinfection is the only treatment, significant failure to disinfect at the level required is a valid decision criterion to issue a water quality notice. Public health officials should be informed immediately so they can determine whether to issue a water quality notice. A decision regarding the issue of a notice should consider whether residents can be informed before the problem is rectified. The TAC noted that there is ample scientific evidence to indicate that failure to disinfect increases the likelihood of viable pathogens being present in the treated water; therefore, a greater risk of enteric infection. The significance of a failure to disinfect should be assessed in the context of relevant information, such as the source and the history of the system. In order to maximize effectiveness in an emergency situation, a notice must be issued very quickly, i.e., within hours of a problem discovery....
>
> Advisories are currently issued by regional health authorities. While this has the advantage of incorporating local site-specific factors, it may create the impression that different processes and criteria are used when issuing advisories. A consistent province-wide process to be used by all regional health authorities will help minimize this.[73]

Ombudsman Findings

F10 There is considerable inconsistency in how the regional health authorities assess when a water quality advisory is required due to turbidity.

F11 FHA, NHA, VCHA, and VIHA do not have a written policy on turbidity.

Ombudsman Recommendations

R10 The Ministry of Health and the regional health authorities establish a standard for issuing turbidity advisories that is consistent across the province, by December 1, 2008.

R11 FHA, NHA, VCHA and VIHA develop a written policy on turbidity that is publicly accessible, by December 1, 2008.

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[72] For example: chlorination failure, power failure, a contaminant spill, flooding, or pressure loss.

[73] Ministerial Technical Advisory Committee on Turbidity and Microbial Risk in Drinking Water. *Report of the Ministerial Technical Advisory Committee*, 28 February 2008, 33-37.

Message Fatigue

In order to work properly, boil water advisories and water quality advisories must not only be issued and communicated, but also understood and acted upon by the people affected. However, the phenomenon of "message fatigue" can hamper this process — a point repeatedly brought up during our investigation.

Water system operators, questionnaire respondents and even health authority officials described how having advisories issued on an almost regular basis can result in information overload and desensitization. A health authority official acknowledged the potential for message fatigue, and that there is a delicate balance between issuing an advisory to notify the public of health concerns and maintaining their attention to the message.

Long-term or recurring advisories can result in complacency instead of effective action. Suppliers told us that the public's confidence in their competence is undermined by frequent advisories. Some members of the public who submitted responses to our online questionnaire said that people simply ignore long-term and recurring advisories and drink water from their water systems, regardless of such warnings.

This problem was identified in a 2007 report entitled *Application of "Point of Entry" and "Point of Use" Water Treatment Technology in British Columbia*:

> Many surface water sources in British Columbia contain few pathogens and communities that rely on these sources without treatment may not experience a noticeably high incidence of gastrointestinal illness. In the face of a long-term boil water advisory without apparent community-wide illness, many people may not take added precautions with their drinking water. However, when water does become contaminated — which can result from something as simple as a beaver taking up residence near the intake works, a high proportion of the population can become ill from ingesting pathogens.[74]

The Ministerial Technical Advisory Committee on Turbidity and Microbial Risk also reviewed the issue of turbidity advisories and associated message fatigue. It made the following findings:

- In general, drinking water advisories do not provide an effective alternative to securing the safety of a drinking water system with appropriate multiple barriers. Advisories can be issued, and rescinded, in the context of an emergency response plan.
- Setting criteria for lifting the advisory at the time it is issued will help clarify the reason it has been put in place. This may reduce confusion.
- For clarity, the advisory can also contain the reason for the advisory, actions members of the community should take and where they can get further information.
- Limited research and anecdotal information suggests that the longer the advisory remains in place, the less impact it will have on behaviour.
- Many people do not fully understand advisories, i.e., they may not drink water that hasn't been boiled, but may brush their teeth with it or use it for uncooked food preparation.

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[74] Ministry of Health, *Application of "Point of Entry" and "Point of Use" Water Treatment Technology in British Columbia* (2007), 60 <http://www.health.gov.bc.ca/protect/poureport_main.pdf>.

- Different people have different learning styles, e.g., visual, auditory, tactile, etc., and different levels of literacy and numeracy. Furthermore, advisories may not physically reach the entire intended audience. Therefore, advisories work better when combined with other forms of information delivery, e.g., face-to-face meetings (in-home or public), information in news media, internet-based information.
- If information about drinking water quality is provided to consumers regularly, such as a regular newspaper feature, it is critical to provide not only data but information about the meaning of the data, particularly with respect to actions consumers can/should take to protect themselves and so avoid confusion.
- Use of precise language will help communicate who needs to do what, e.g., avoid imprecise terms such as 'the very young and the very old'. Accurate references to other information will allow interested readers to successfully search for the additional information, such as correctly referencing Canadian Drinking Water *Guidelines* rather than referring to Canadian drinking water standards.
- Provision of consistent information by local health authorities and local water purveyors will help avoid undermining confidence in the advice and in the organizations communicating it.
- Anecdotal information suggests that repeated or continuous advisories undermine confidence in the water supply, the regulator, or both.[75]

Ombudsman Finding

F12 The Ministry of Health and the regional health authorities are aware that long-standing or recurring advisories can cause the public to become desensitized and disregard warnings about drinking water-related health risks.

Ombudsman Recommendations

R12.1 At least once a year, each regional health authority publicly report the length of time each advisory in force for more than one year within its jurisdiction has been in effect, the steps taken since its last report to remedy the underlying problems that necessitate the notice or advisory, and the corrective actions that remain outstanding.

R12.2 The regional health authorities establish a similar process for advisories that recur on a regular basis.

[75] Ministerial Technical Advisory Committee on Turbidity and Microbial Risk in Drinking Water, *Report of the Ministerial Technical Advisory Committee*, 28 February 2008, 36-37.

Communicating the Permanent Province-wide Advisory

Did you know that the Ministry of Health's website includes a recommendation that persons who have weakened immune systems may want to take precautions so that their drinking water is as safe as possible? Those precautions include boiling water, installing appropriate drinking water filters or using drinking water from different sources. *BC HealthFile* Number 56 indicates that persons who have weakened immune systems include:

- People with HIV infection or AIDS;
- People who have been getting treatment for cancer (i.e. radiation therapy or chemotherapy);
- People who have had an organ or bone marrow transplant and are taking anti-rejection drugs;
- Elderly who may be vulnerable; and
- Infants.[76]

On May 9, 2001, the provincial health officer issued a press release warning people with compromised immune systems to take special precautions with their drinking water. In December 2003, this advisory was incorporated and expanded upon in the Ministry of Health's *BC HealthFile* Number 56. Health authorities refer to these warnings as "standing advisories" and rely on them as a principal method of ensuring that people with weakened or compromised immune systems are advised about drinking water-related health risks. The provincial health officer reiterated this message in his February 2007 report, *Progress on the Action Plan for Safe Drinking Water in British Columbia*, stating:

> *In the course of our investigation we heard from water suppliers in the Interior who told us that they were uncertain about what age group of children is included in the term "weakened immune system." They pointed out that some of IHA's turbidity education materials list "children under 12 years of age" as one of the groups of individuals who should take precautions with their drinking water. At the same time, however, IHA posts the following message on its website: "The Provincial Health Officer recommends that newborns and people with weakened immune systems drink boiled water at all times if served by an unfiltered surface water source."*

> Because no water supply is 100 per cent safe, and sudden water quality failures can take hours or even days to identify and communicate to an entire community, people who have HIV/AIDS, are undergoing chemotherapy or who have compromised immune systems are advised to consider boiling their water, or installing an in-home drinking water treatment device capable of reducing their risk of illness. Systems that filter and disinfect with reverse-osmosis or ultra-violet light technology are readily available and, when properly used and maintained, can provide an effective safeguard against distribution system or treatment failure.[77]

We asked the regional health authorities for examples of how they communicate this message to the targeted populations who live in the communities they serve.

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[76] Ministry of Health, *Weakened Immune Systems and Water-borne Infections* (*BC HealthFile* Number 56, 2003) <http://www.bchealthguide.org/healthfiles/pdf/hfile56.pdf>. While the provincial health officer uses the term "compromised immune system," the Ministry of Health and health authorities use the term "weakened immune system." For the purposes of this report, the terms are used interchangeably.

[77] Office of the Provincial Health Officer, *Progress on the Action Plan for Safe Drinking Water in British Columbia* (2006), 4-6.

Table 6 — Health Authority Notification of the Permanent Advisory to People with Compromised or Weakened Immune Systems

Health authority	Efforts to notify people with compromised or weakened immune systems about the permanent advisory
Fraser	• Warnings about potential health risks to these individuals are included in all FHA press releases about drinking water safety.[1] • FHA believes that doctors in the region advise these patients about the associated risk.
Interior	• IHA has conducted an educational campaign which includes information about turbidity, the associated risks to individuals in these groups, and the need for these individuals to take precautions with drinking water. This message has been communicated through • quarterly newsletters to physicians in the Interior region; • pamphlets;[2] • articles in local newspapers; and • information on its website.[3]
Northern	• Warnings about potential health risks to these individuals are included in NHA press releases about boil water advisories.
Vancouver Coastal	• On the North Shore, the medical health officer sends annual letters to local physicians reminding them to inform their affected patients about the precautions they should take. • North Shore water suppliers include a statement about water safety for these individuals in each of their annual reports and in an annual public service announcement in local community newspapers.[4] • VCHA's website contains a Q&A page dedicated to this issue;[5] and • VCHA believes that doctors in the region advise these patients about the associated risk.
Vancouver Island	• The March 2006 internally distributed *Emergency Operations Centre Manual* includes steps for getting the message out to these populations (e.g., notifying affected care facilities). • Rapid notification of hospitals and long-term care facilities when a boil water advisory is issued; • VIHA's boil water advisories webpage has a prominent link to *BC HealthFile* Number 56.

[1] For an example, see "Water Advisory Lifted" at <http://www.fraserhealth.ca/News/NewsReleases/2006Archive/Pages/2006-11-27.aspx>.

[2] Examples of the Interior Health Authority's pamphlets include: *4-3-2-1-0 Countdown to Safer Drinking Water; How Safe is Your Water?; Water Quality Advisories — Who Do They Affect?* and *Public Notifications — What Are They and Why are They Issued?*

[3] The IHA's main drinking water page has a prominent link to the provincial health officer's permanent advisory for people with compromised immune systems. <http://www.interiorhealth.ca/Health+and+Safety/Drinking+Water/>.

[4] VCHA is standardizing these steps across the region.

[5] This document can be viewed at <http://www.vch.ca/environmental/docs/water/water_turbidity_faq.doc>.

Ombudsman Findings

F13 FHA and NHA do not have adequate procedures in place to notify people with compromised or weakened immune systems about the potential health risks associated with drinking water.

F14 Relying on the provincial health officer's longstanding advisory is not a reasonable or adequate method for regional health authorities to meet their obligations to advise people with compromised or weakened immune systems about the potential health risks associated with drinking water.

F15 IHA provides contradictory information about the groups of people that should always take precautions with their drinking water. It lists "children under 12 years of age" in some publications and "newborns" in others.

Ombudsman Recommendations

R13.1 The Ministry of Health, FHA and NHA establish adequate procedures to ensure that people with compromised or weakened immune systems are notified about the potential health risks associated with drinking water, by December 1, 2008.

R13.2 The provincial health officer's annual report include information about the procedures the regional health authorities have in place to notify people with compromised or weakened immune systems about the potential health risks associated with drinking water.

R14 The provincial health officer review ways of giving the general advisory more prominence, such as reissuing it on an annual basis and seeking to have it included in publications and websites that relate to the care and treatment of those with compromised or weakened immune systems.

R15 The IHA clarify which group of children should always take precautions with their drinking water.

What Do Health Authorities Do to Help Systems End Advisories?

Each of the regional health authorities has said they want to reduce both the number and the duration of advisories. The following table lists steps each of them has taken to accomplish these goals.

Table 7 — Steps Health Authorities Take to Help Systems End Advisories

Health authority	Number of advisories[1]	Steps health authorities take to help systems end advisories
Fraser	20	• recommending that an improvement district connect to a new water system operated by a neighbouring regional district; • recommending that a mobile home park install a treatment system to remove arsenic; and • recommending that a university connect to a neighbouring municipality's water system.
Interior	390	• requiring systems to retain a certified operator; • requiring systems to have an emergency response plan; • requiring regular sampling; • requiring chlorination of systems' water; • requiring system owners to make infrastructure improvements; • requiring systems to conduct more frequent inspections; • facilitating meetings between small water systems' customers and representatives of larger, neighbouring systems to discuss the possibility of connecting the systems; • requiring systems to undergo infrastructure assessments by an engineer and make necessary upgrades; and • working with consumers, suppliers and local governments to have the smaller, non-compliant systems absorbed by larger community water systems or be taken over by local government. This provides access to infrastructure support for upgrades.
Northern	51	• offering technical assistance when small systems seek to have their advisory removed; • working with regional districts and municipalities that are trying to have advisories removed from the small systems under their control; • encouraging upgrades to a system by restricting expansion of other parts of the operation until potability is achieved; • sharing information about other systems that have achieved potability; and • intensifying surveillance and inspections.
Vancouver Coastal	63	• providing water suppliers with advisory templates; • using court orders and litigation when necessary; and • encouraging and, in some cases, forcing, a small system to amalgamate with a neighbouring regional district or municipality.
Vancouver Island	54	• working with suppliers to identify short and long-term options for their systems; • providing information about financial and other types of available assistance; and • providing small systems with information about amalgamation.

[1] Figures were provided by the regional health authorities and are accurate as of May 2008. These figures include boil water advisories, water quality advisories and do not use notice.

As is the case with most government programs, the administration of the provincial Drinking Water Program is affected and limited by the financial resources available to each health authority. As the provincial health officer points out, the majority of current boil water advisories in B.C. affect only one per cent of the province's total population.[78] However, what is not explained is the fact that the systems under advisories are not in compliance with the *DWPA* and its Regulation, and many of these systems have been under advisories for a number of years — including some for over 10.

Long-term advisory lifted

In March 2008, the boil water advisory on the Lang Bay Water Works Ltd., a private utility providing water to about 500 people, was lifted. This small system south of Powell River had been on the advisory since 1979. The following improvements made to the system enabled it to end one of the longest standing advisories in the Vancouver Coastal region:

- *The installation of an automated treatment system, which chlorinates the water constantly and monitors chlorine and turbidity levels;*
- *The upgrading and covering of the reservoir where the system's water is stored;*
- *The development of an emergency response plan; and*
- *The installation of a back-up power supply.*

Ombudsman Finding

F16 The regional health authorities have not taken sufficient steps to bring systems on long-standing advisories into compliance with the *DWPA* and Regulation.

Ombudsman Recommendations

R16 The regional health authorities commit to reducing by 10 per cent a year the current number of systems on advisories within their regions, and having no system on an advisory for more than 18 months by the end of 2011-12 fiscal year.[1]

R16.1 The Ministry of Health support the regional health authorities in achieving the goal of reducing by 10 per cent a year the current number of systems on advisories within their regions, and having no system on an advisory for more than 18 months by the end of 2011-12 fiscal year, including by considering a governance model that involves mechanisms such as point-of-entry or point-of-use treatment for individual users on water supply systems and prescribed integration of water supply systems, if required.

[1] In order to assist the regional health authorities to commit to this recommendation, the Ombudsman has agreed that a satisfactory response includes the understanding that: any newly discovered water supply systems that have to immediately be put on a boil water advisory would not be included in the 10 per cent calculation for three years; the total number of systems on which the 10 per cent is based will decline each year, as systems are taken off advisories; the commitment is subject to the Ministry of Health providing the necessary tools and support.

[78] Office of the Provincial Health Officer, *Progress on the Action Plan for Safe Drinking Water in British Columbia* (2006), 6.

The Provincial Health Officer and Advisories

In his February 2007 report, *Progress on the Action Plan for Safe Drinking Water in British Columbia*, the provincial health officer stated:

> Following the promulgation of the *DWPA* in May 2003, drinking water officers began re-evaluating programs that provide public awareness of water quality problems. As public notification procedures have changed, the value of tracking counts of boil water advisories as a means of assessing overall performance of drinking water programs has become questionable.
>
> Tracking counts of boil water advisories can also be misleading since the proportion of systems under advisories does not reflect the proportion of the population affected. Most of the long-term advisories are on public water supply systems with 1 to 300 connections and are estimated to serve about one per cent of the total BC population. The focus on reducing the count tends to undermine the fundamental purpose of the advisory, which is to inform specific communities about their water quality concerns. Nevertheless, it is clear that more can be done to reduce the need for boil water advisories in the province and to minimize reliance on individual households boiling their water as a de facto form of water treatment.[79]

One of the themes that has emerged from this investigation in a variety of ways, including through our online drinking water questionnaire, is that where people live affects their ability to access safe drinking water. More specifically, people living in rural areas or serviced by small systems are more likely to have ongoing quality or safety problems with their drinking water. The provincial health officer's statements on boil water advisories appear to support that contention.

Although only a small percentage of B.C.'s population lives in remote or rural areas year-round, a much greater number visit or reside in them seasonally, including cottagers, campers and RVers. These populations may also be adversely affected by the safety and quality problems of small systems. While it may be true that the number of boil water advisories does not accurately reflect the overall safety of our province's drinking water, advisories still act as a significant safety mechanism for small systems. Reducing the number of boil water advisories is a useful and important goal and will serve as a clear demonstration of the commitment of all the public agencies responsible for safe drinking water, and is consistent with the aim of getting B.C. on the same regulatory level as other provinces. The provincial health officer's continued support will be instrumental in the health authorities achieving these goals.

Conclusion

Public advisories act as a first line of defence for water suppliers and health authorities. Cooperation is often required between suppliers and health authorities in order to ensure that messages about drinking water-related health risks get to those affected. Cooperation is always required to end water advisories.

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[79] Office of the Provincial Health Officer, *Progress on the Action Plan for Safe Drinking Water in British Columbia* (2006), 6.

While health authorities have seen improvements in the safety of drinking water since the new *DWPA* came into force in 2003, at the same time, they explain that long-term advisories are a constant challenge. Invariably small systems are the subject of long-term advisories. The cumulative effect of the obstacles facing small systems — the lack of financial resources, the ineligibility for government grants, and the remoteness of the communities among others — makes it difficult for them to comply with the Act and end advisories.

Consequently, for people served by those systems, it becomes increasingly difficult to discern how meaningful the long-term advisories actually are. Under the current legislative framework, it is unclear whether, as one health authority official put it, long-term advisories are actually improving drinking water safety for the people in these situations, or are "just getting people used to a lower standard of water."

Who is Responsible for Monitoring and Enforcement?

Drinking water officers in each of the regional health authorities are responsible for monitoring and enforcing compliance with the *Drinking Water Protection Act* (*DWPA*). The *Drinking Water Officers' Guide* identifies the following ways in which officers monitor drinking water safety and obtain information regarding potential problems with water supply systems:

- receipt of notice by a laboratory that a water sample did not meet the standards (section 12 *DWPA*);
- report of threat to drinking water by water suppliers (section 13 *DWPA*);
- report of threat where required under other act (section 24 *DWPA*);
- complaints or requests for investigations by users of the system (section 29 *DWPA*);
- information generated through assessments (section 19 *DWPA*); and
- routine inspections, auditing and follow up by drinking water officers.[80]

Drinking water officers in the regional health authorities are also responsible for enforcing compliance with the Act and its Regulation. On August 1, 2003, Colin Hansen, then Minister of Health Services, outlined some of the new requirements of the *DWPA* in a letter to all drinking water suppliers. With respect to compliance with the new Act, Minister Hansen indicated:

> We recognize these requirements are an increase in government's expectations of water suppliers. However, they are necessary to provide safe drinking water and instill customer confidence in the safety of the water they drink. Many water supply systems, particularly smaller ones, were not always in compliance with the *Safe Drinking Water Regulation* and, without changes, will have difficulty in complying with the new *Drinking Water Protection Act*. Please be advised that the tolerance shown to non-complying systems in the past will not be afforded to systems in the future.[81]

Monitoring Drinking Water Quality — Sampling

While there are many steps in the process to protect drinking water, monitoring its quality is an important part of evaluating whether the "multi-barriered" approach is working.[82] Sampling is one method used to monitor water quality. Samples of water are required to be taken regularly from each system and treatment plant and sent to approved laboratories for analysis.[83] Process monitoring and chlorine residual monitoring also play an important role.

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[80] Drinking Water Leadership Council, *Drinking Water Officers' Guide* (2007), 63.

[81] Colin Hansen, Minister of Health Services, letter to drinking water suppliers, 1 August 2003.

[82] The multi-barriered approach to drinking water is an integrated system of procedures, processes and tools that collectively prevent or reduce the contamination of drinking water from source to tap.

[83] Laboratories that test drinking water samples for microbiological parameters must be approved by the provincial health officer through the Enhanced Water Quality Assurance Program. There are approved laboratories in Vancouver, Richmond, Burnaby, Surrey, Victoria, Sidney, Courtenay, Prince Rupert, Kelowna, Kamloops, Grand Haven, Calgary and Edmonton.

Access to Approved Laboratories

Section 11 of the *DWPA* and section 8 of the *Drinking Water Protection Regulation* (*DWPR*) require water suppliers to take water samples for bacteriological analysis and have them analyzed at a laboratory approved by the provincial health officer. Accurate test results require proper sample collection procedures and fast, reliable transport because laboratories in B.C. will not test a water sample if they receive it more than 30 hours after it was collected. Samples must be transported in cool, dark containers at temperatures not greater than 10 degrees Celsius nor below freezing. The bacteria that may be present in a water sample may die if the sample gets too warm or too cold.

Meeting these requirements can be a challenge for water suppliers and particularly for water suppliers in the North and Interior. Many water suppliers told us that the distance they are located from approved laboratories makes it difficult for them to deliver samples fast enough and at the temperature required. We know of a case in which the operator drove samples to Whitehorse, then had them flown to the BC Centre for Disease Control's laboratory in Vancouver, at the water system's expense. Most health authorities will pay for transportation to a BCCDC lab if samples are taken to the local health unit or office. This may not be a practical option for water suppliers in very rural or remote areas. Delivering water samples to approved laboratories is a significant challenge for some operators, which may result in them submitting less frequent samples or being required to submit less frequent samples.

How much it costs water suppliers to have their samples analyzed depends on the size of the system. As of June 1, 2007, BCCDC Laboratory Services charges some medium-sized and all large water systems for their routine water testing, though currently there is no charge for smaller systems to have their samples analyzed. Small water suppliers told us that funding provided by BCCDC for the cost of water sampling is extremely important and helpful.

Ombudsman Finding

F17 Access to approved laboratories for required testing of drinking water samples is inadequate for systems in remote areas.

Ombudsman Recommendation

R17 The Ministry of Health and the provincial health officer work together to develop initiatives to support an increase in the number of approved laboratories in areas where water suppliers currently face unreasonable barriers to the cost-effective and timely transportation of water samples for bacteriological analysis, by June 1, 2009.

Standards — Required and Discretionary

Section 6 of the Act requires water suppliers to provide water that is potable and that meets any additional requirements established by the Regulation or their operating permit. Potable water is defined in section 1 of the *DWPA* as water that meets the standards in the Regulation and is safe to drink and fit for domestic

purposes without further treatment. Under section 8 of the Regulation, water suppliers must monitor levels of total coliforms and E. coli (bacteriological sampling).[84] Section 9 of the Regulation requires immediate reporting if the water quality standards in Schedule A are not met for fecal coliform and E. coli. Schedule A of the Regulation includes standards for fecal coliform, E. coli and total coliform bacteria. Our understanding is that water suppliers are required to have bacteriological samples analyzed at approved laboratories, and that approved laboratories in B.C. do not analyze samples for fecal coliform. Thus, the reference to fecal coliforms in section 9 of the Regulation and in Schedule A may be redundant. The Ministry of Health should consider these references to fecal coliform in its next review of the *DWPA* and Regulation.

While the *Guidelines for Canadian Drinking Water Quality* set acceptable levels for approximately 165 microbiological, chemical and radiological contaminants, in British Columbia, the *DWPA* does not require water suppliers to sample for these substances. While some Canadian jurisdictions have passed laws requiring that tests be conducted for all the substances listed in the *Guidelines*, in B.C. only bacteriological sampling is required on a routine basis, though drinking water officers do have the authority to require sampling for other substances, at their discretion.[85]

Water samples provide snapshot

A sample is only a snapshot of water quality at the time it was collected. The BC Centre for Disease Control describes it this way: "Monitoring for bacteriological water quality is only one of the 'spot-checks' for operational treatment process integrity and distribution system integrity. It provides a limited spatial and temporal picture within the whole water system."[1]

Testing is just one of the ways water quality and safety are evaluated. A single result on its own does not provide enough information to determine overall water safety. Further investigation, additional sampling and/or site investigation is always required.

[1] BCCDC Environmental Health Laboratory Services, *Safe Drinking Water: Public Health Laboratory Surveillance. An Update for Public Health Workers on Laboratory Testing for Safe Drinking Water in British Columbia, (n.d.), 4.*

The rationale for testing on only these limited parameters is explained in the *Progress on the Action Plan for Safe Drinking Water in British Columbia*:

> This approach gives local authorities the flexibility to take into account local risks, needs and resources in order to protect public health. For example, rather than requiring water quality to be tested against a long list of mandatory standards — some of which may never apply to a certain water source — drinking water officers can require water suppliers to monitor for chemicals known to be used, or naturally present, in the source water area. The regulation does prescribe microbial standards that must be met by all public water supply systems, since microbiological pathogens are known to be the key cause of water related illness in British Columbia.[86]

[84] See Appendix for these sections of the *Drinking Water Protection Act* and *Drinking Water Protection Regulation*.
[85] A table comparing standards across Canadian jurisdictions is provided later in this section. See Table Eight.
[86] Office of the Provincial Health Officer, *Progress on the Action Plan for Safe Drinking Water in British Columbia*, (2006), xv.

Table Eight lists the drinking water standards that each Canadian province and territory has adopted. As is indicated, Alberta, Ontario and Nova Scotia have either adopted or exceeded the standards set out in the *Guidelines for Canadian Drinking Water Quality*. B.C. has adopted fewer of these standards than many other Canadian jurisdictions. This approach is only compatible with the strategic guidance, "to lead the world with… the best water quality… bar none" if there is a clear, consistent and rigorous process for identifying when the additional substances should be tested for and for conducting those tests and responding to the concerns they raise.[87] On straightforward testing, the standards are certainly higher in other provinces.

Table 8 — Provincial and Territorial Drinking Water Quality Standards

Jurisdiction	Drinking water quality standards [1]
Alberta	Adopted *Guidelines for Canadian Drinking Water Quality*.
British Columbia	Bacteriological standards adopted from the *Guidelines for Canadian Drinking Water Quality*. Other standards may be required on a case-by-case basis.
Manitoba	Water quality must meet bacteriological standards. *Guidelines for Canadian Drinking Water Quality* not adopted.
Newfoundland	Bacteriological standards from the *Guidelines for Canadian Drinking Water Quality* adopted. Chemical and physical standards in *Guidelines for Canadian Drinking Water Quality* are considered objectives.
New Brunswick	Standards not adopted, but water suppliers must have approved sampling plan.
Northwest Territories	Regulated bacteriological, physical, chemical and radiological standards. The chief medical health officer determines manner and frequency.
Nova Scotia	Adopted bacteriological, physical and chemical standards of the *Guidelines for Canadian Drinking Water Quality*.
Nunavut	Regulated bacteriological, physical, chemical and radiological standards. Chief medical health officer determines manner and frequency.
Ontario	Adopted *Guidelines for Canadian Drinking Water Quality* and exceeded in some cases.
Prince Edward Island	*Guidelines for Canadian Drinking Water Quality* not adopted, but testing is required for bacteriological and chemical analysis and assessment is based on *Guidelines for Canadian Drinking Water Quality*.
Quebec	Regulated bacteriological, inorganic, organic, radioactive substances and turbidity standards.
Saskatchewan	Regulated bacteriological, chemical and turbidity standards.
Yukon	Large public systems required to monitor bacteriological, chemical, and physical quality, turbidity and trihalomethanes quality. For other systems, sampling is determined by Environmental Health Services.

[1] This table outlines the water quality standards that have been adopted in each province and territory. It is important to note that the frequency of testing for the standards outlined varies.

[87] Government of British Columbia, *Speech from the Throne*, 12 September 2005.

In addition to meeting the standards required by the Regulation, section 8(6) of the *DWPA* allows drinking water officers to order a water supplier to undertake additional sampling if the drinking water officer considers that further information is necessary to determine whether the water supplied by the system meets the requirements. The *Drinking Water Officers' Guide* indicates that additional monitoring and reporting requirements can be imposed without the necessity of amending the operating permit. In practice, additional requirements may be imposed by order, by way of an inspection report, by a requirement on the operating permit, or by request of the drinking water officer.

Where the drinking water officer orders a water supplier to undertake additional monitoring, the *Guide* indicates that the order should be made in writing, should specify that it is being made under section 8(6), and should specify the type and frequency of monitoring required as well as the manner in which the results must be reported to the drinking water officer and the public. Because additional sampling may be required or requested in a number of different ways, the information on how often and how many samples are required is difficult to track and not readily available.

With respect to new water supply systems, the *Drinking Water Officers' Guide* provides the following direction:

> In addition, the issuing official should consider the suggested parameters for chemical standards set out in the Canadian Drinking Water *Guidelines*...and determine whether, in relation to that proposed water supply treatment, the issuing official has reason to believe that monitoring and treatment for any of the chemical parameters is necessary to protect public health. In this regard, issuing officials may wish to consider whether the water will be consumed by persons on an ongoing or seasonal basis, special vulnerabilities of intended users (e.g. school children), or other such matters. The parameters for which testing will be required may depend on water source, type of system, location, etc. and this is a matter for the discretion of the issuing official....[88]

We asked the health authorities for information on when drinking water officers have imposed additional sampling requirements. All the health authorities told us that water suppliers are required to conduct full chemical analyses for all the standards in the *Guidelines for Canadian Drinking Water Quality* when they apply for a permit to operate and that under certain circumstances, they may also be required to do further chemical analyses after that. FHA requires suppliers to repeat the chemical analyses every three years, but NHA only every five. VCHA told us that at the discretion of the drinking water officer, testing may be required regularly, as well as on an as-needed basis.

Based on the information provided to us by the health authorities, we could not conclusively determine how frequently they require or consider requiring sampling for parameters other than total coliforms and E. coli. Some suppliers, usually large ones such as municipalities and regional districts, do sample for a long list of substances. For example, in 2006, the Capital Regional District (Greater Victoria) collected 6,856 samples on which 47,468 individual tests were done. The Capital Regional District conducts approximately 300 different tests including for metals, pesticides, nitrates and nitrites on an annual basis. During times of

[88] Drinking Water Leadership Council, *Drinking Water Officers' Guide* (2007), 39-40.

increased turbidity, VCHA has required water suppliers to provide twice-daily updates on turbidity levels of both source and treated water. By comparison, a typical small water system only tests for bacteriological substances and typically collects between one and four samples per month.

It appears that across the province relatively few water suppliers have actually been required to test for additional substances on a regular basis. For example, VIHA told us that its staff only rarely requires sampling for anything other than E. coli and total coliforms.

It would be more possible to understand the scope and regularity with which additional testing is done on water samples if the information was readily available from health authorities' databases. However, the health authorities do not consistently track sampling requirements or results. Based on the information we reviewed, we are concerned that the flexibility to take into account local risks, needs and resources in order to protect public health is not being used to its potential. Based on our review of the *Drinking Water Officers' Guide*, there seems to be a lack of clear direction that would assist drinking water officers in applying a consistent approach to water sampling across the province.

IHA's Drinking Water Quality Improvement Program

The IHA has created a Drinking Water Quality Improvement Program for large water systems (more than 300 connections). The program focuses the attention of water suppliers and drinking water officers on the operation, protection, monitoring, best practices and long term planning needed for the system. The goals identified through the program are formalized as a condition of the operating permit. The following are nine typical conditions used for large water systems:

- *provide a source protection plan;*
- *provide a certified operator;*
- *operate according to your water quality sampling program;*
- *operate according to your cross connection control program;*
- *provide continuous on-line turbidity monitoring;*
- *provide continuous on-line monitoring of water disinfection process;*
- *provide long-term plans for source, treatment and distribution system improvement taking into account the goal of 43210 treatment objectives;*[1]
- *review and update emergency response plan annually; and*
- *provide monthly reports on an annual summary.*

As the larger systems within IHA are achieving their goals, the focus of the program is shifting to smaller systems serving fewer people. We encourage other health authorities to use or develop similar programs.[2]

[1] *The 43210 drinking water objectives provide a performance target for water suppliers to ensure the provision of microbiologically safe drinking water. For more information, see the booklet from the Interior Health Authority, Drinking Water Quality Improvement Program: Conditions on Operating Permit (2006).*

[2] *Interior Health Authority, Drinking Water Quality Improvement Program: Conditions on Operating Permit (2006).*

Sampling Frequency

The rate at which suppliers must sample the drinking water may be set out in each system's operating permit as well as the *DWPR*.[80] Schedule B of the Regulation sets sampling frequencies according to the size of the population that is served by a water supply system. For example, water systems that serve fewer than 5,000 people are required to sample four times per month. However, under section 8(3) of the

[80] Section 11 of the *Drinking Water Protection Act* requires water suppliers to monitor the water they provide at the frequency established by Schedule B of the *Drinking Water Protection Regulation*.

Regulation, drinking water officers are allowed to set higher or lower rates of sampling, at their discretion. The *Guide* outlines the following factors that drinking water officers should consider when altering sampling frequencies:

- the water source (including whether it is surface water or ground water at risk of influence by surface water);
- the history of the system;
- any special vulnerabilities of the intended users;
- experience of other systems using the same or related water sources;
- whether water is being provided to point of entry or point of use treatment systems;
- other monitoring being done by the water supplier (such as of chlorine residuals, other disinfection effectiveness, turbidity and particle counts).[90]

How often do water suppliers have to sample?

Size of water system	Frequency
Serves a population of less than 5,000	*4 samples/month*
pop. = 5,000 - 90,000	*1 sample per 1,000 of population/month*
pop. = 90,000+	*90 samples/month, plus 1 for every 10,000 of population greater than 90,000*[1]

Variations in testing frequency

While the above table sets out the sampling frequency that is in the DWPA's regulations, it's important to know that drinking water officers have the authority to diverge from these rules. For example, according to the regulations, the City of Penticton's water system, which serves approximately 33,000 people, would have to submit 33 samples per month to an accredited lab. However, the Interior Health Authority has agreed that the Penticton system's operators can instead submit only four samples per month, while self-analyzing a further 30 using a "presence/absence test." This agreement is recorded on the operating permit of the Penticton system. IHA agreed to reduce the number of required samples because the city has met all the conditions of its operating permit as well as its treatment goal, and has a "progressive water program."

[1] *Drinking Water Protection Regulation*, B.C. Reg. 200/2003, Sch. B.

It should be noted that while the *DWPR* classifies systems based on the number of people served, health authorities classify systems based on the number of connections they contain.[91] A health authority may estimate the number of people served by a water system by multiplying the number of connections by three or four people. Health authorities may also receive information about population served from water suppliers. This is problematic because in some cases, such as one connection servicing an entire apartment building, it is possible for one connection to serve hundreds of people. The result may be that health authorities are underestimating the number of people served by some water systems and therefore the frequency at which these water suppliers should be sampling.

All small water systems are required to take four samples per month unless this is varied by a drinking water officer. In some cases, drinking water officers are still taking samples for small water systems, but it appears only at the rate of one sample per month. This effectively reduces sampling frequency across the board rather

[90] Drinking Water Leadership Council, *Drinking Water Officers' Guide* (2007), 58.
[91] See the *Glossary* for a definition of connection.

than on a case-by-case basis as set out in the Act. We encourage health authorities to look at their practices to determine whether decisions are being made on a case-by-case basis, and if not, to take appropriate steps to remedy this situation.

In addition, the decisions to alter sampling frequency are not consistently tracked by the health authorities. This is again because the decision may have been an informal request to the water supplier by the drinking water officer, may be a permit requirement, or may be contained on an inspection report. A decision to alter sampling frequency should be recorded in a way that makes it possible to track.

Ombudsman Findings

F18 The information systems currently used by regional health authorities to record and track water sampling information, such as substances tested for, frequency of sampling and sampling results, are inadequate.

F19 The regulated drinking water standards that B.C. uses are less comprehensive than those in force in other provinces that have adopted the *Canadian Drinking Water Quality Guidelines*. As a result, fewer routine tests are done on drinking water in British Columbia.

F20 The *Drinking Water Officers' Guide* does not provide adequate guidance to drinking water officers who are trying to determine whether water should be tested for substances in addition to total coliforms and E. coli, and if so, which substances should be tested for, and how often.

Ombudsman Recommendations

R18 The regional health authorities develop systems to track and publicly report water sampling data including the list of substances tested for, how frequently the sampling is carried out, and test results. Test results should be promptly posted on the health authorities' websites, by June 1, 2009.[1]

R19 The Ministry of Health reassess whether to adopt additional mandatory drinking water standards, by June 1, 2009.

R20 The Ministry of Health develop guidelines to assist drinking water officers to exercise their discretionary power to require sampling for substances in addition to total coliforms and E. coli.

[1] The Ombudsman has accepted that a satisfactory response to this recommendation is a commitment to promptly post the information readily available, and then to post annual reports.

Audit Sampling

Auditing of samples allows health authorities to verify the accuracy of samples taken by water suppliers. Audits are conducted by drinking water officers who visit water systems and take their own samples, then send them to laboratories for analysis. While drinking water officers do have the authority to audit samples, it's important to note that they are not required to do so. Table Nine shows how each of the regional health authorities carries out audit sampling.

Table 9 — Audit Sampling Practices

Health authority	Audit sampling
Fraser	Audits between 10 and 15 per cent of all samples required. For example, if a water system is required to submit four samples per month, FHA will collect four to five audit samples annually. Water samples are tested for microbial parameters, and for selected systems, turbidity and residual chlorine measurements.
Interior	Goal is to audit a minimum number of samples for all prescribed water systems. Additional audits may be done where a drinking water officer considers necessary. IHA did not identify what it has set as its minimum number or whether its goal is being met.
Northern	An audit site and sampling frequency (generally once per year) is set when NHA creates a file for a water system in its database. When possible, the auditing is done at the same time as the inspection. NHA did not indicate whether the goal of auditing once per year is being met.
Vancouver Coastal	Conducts regular audit sampling and typically schedules audits on up to 10 per cent of the samples a supplier is required to submit. However, this is at the discretion of the drinking water officer and decisions depend on the complexity of the system, the degree of comfort VCHA has with the system and the history of sampling results. VCHA did not indicate whether this goal is being met.
Vancouver Island	Does not audit samples on a routine basis.

FHA's Drinking Water Program Sets an Example

The Fraser Health Authority's Drinking Water Program issues an annual report for each fiscal year, with the goal of providing an overview of its "achievements, changes, current issues and areas that require attention."

The report also lays out the plan for how problem areas will be addressed, and assesses how suppliers are doing in several areas: source protection, treatment, distribution systems, monitoring, construction and operating permits, operator qualifications, emergency response and contingency plans, notices of threats to water quality, inspections, flood proofing, and others.

This health authority is proactively providing as much information as possible about the water systems in its area. We encourage other health authorities to report publicly on their program's goals, achievements and areas needing improvement.

As this chart shows, the various health authorities each have their own approach to auditing of water samples. The Fraser Health Authority appears to have the most comprehensive audit sampling program and we therefore encourage the other health authorities to adopt similar practices.

Accessibility and Availability of Sampling Results

The availability of information about water systems, including test results, is another area where we found wide variations around the province. Some large water suppliers, such as the CRD and GVRD, and municipalities, put this type of information on their websites. Small systems typically do not. They may not have a website.

The minimum standard that all suppliers must meet under the *DWPA*'s section 15(b) and section 11 of the Regulation is to make the results of water quality tests public. The Regulation requires water suppliers to prepare and make public, within six months of the end of the calendar year, an annual report of the results of the monitoring required by the Regulation, their operating permit or the drinking water officer. Neither the Act nor the Regulation specifies the form to be used for the annual report. However, Appendix 5 of the *Guide* includes a sample annual report, which includes the following:

- date of the report;
- period of monitoring covered by the report;
- name of water supply system and water supply system operating permit number;
- location of water supply system;
- period of monitoring covered by the report;
- name of owner(s);
- name and contact information for water supplier;
- water system classification;
- name of certified operator for the water system;
- results of coliform and E. coli monitoring;
- results of chemical analysis conducted during the period covered by the report;
- results of monitoring for any other parameters required by the operating permit or drinking water officer; and
- improvement actions and plans.

The Regulation requires water suppliers to make the report public. This may be done in a number of ways, including:

- mailing a copy of the report to each user of the system;
- providing a copy to any municipality and regional district;
- posting a copy of the report at the main site of the water system;
- posting a notice in local newspapers advising that the annual report is available for review; and
- providing information on how a person can obtain a copy of the report.[92]

Table 10 reflects how the regional health authorities enforce the requirement for water suppliers to make annual reports available to their users, and the practices of the regional health authorities of posting sampling results on their websites.

[92] Drinking Water Leadership Council, *Drinking Water Officers' Guide* (2007), 6. Appendix 5 of the *Guide* contains a sample Annual Report of Monitoring.

Table 10 — Availability of Sampling Results on Health Authority Websites and in Annual Reports

Health authority	Accessibility and reporting of sampling results
Fraser	Does not currently post sampling results on its website, but hopes to post sampling frequency and water quality compliance reports at some later date. Approximately 95 per cent of water systems in the FHA submit their samples to BCCDC labs. These results are sent directly to the FHA's database. FHA provides these suppliers with a printout of their sampling results every year, which the suppliers can use to provide an annual report to their customers. FHA indicated that drinking water officers also inquire about annual reports during inspections.
Interior	Does not post sampling results on its website. Typically includes the requirement for annual reports as a condition on operating permits for larger systems. Drinking water officers inquire about annual reports during inspections. IHA indicated that they are currently working on a strategy to enforce this requirement.
Northern	Results of bacteriological water sampling are posted on its website. NHA told us that water suppliers generally send them a copy of their annual report, and that drinking water officers mention the need for an annual report during annual inspections. NHA told us that its next step will be to follow up with those systems that have not completed an annual report. NHA intends to create a sample template to assist water suppliers with the process.
Vancouver Coastal	Does not currently post all sampling results on website. In Coast Garibaldi many water supply systems submit samples to BCCDC and the results go directly to Coast Garibaldi's online database, where they can be viewed by the water supplier, the drinking water officer and the public.[1] VCHA is currently pilot testing a public online portal through which it hopes to post all sampling results. For the systems using BCCDC labs, VCHA receives the results electronically, and gives a printout to the water supplier, which can be used to create an annual report for customers. Checks to see if an annual report with sampling results has been made available to users as part of its annual inspections.
Vancouver Island	Does not post sampling results on website. Does not currently monitor or enforce the requirement for water suppliers to produce an annual report.

[1] VCHA is made up of the Vancouver Coastal region and the Coast Garibaldi region.

As shown above, health authorities do not consistently enforce the legislated requirement for water suppliers to provide an annual report of water sampling results to their customers. It seems that health authorities could easily do so by making this part of their regular inspections by asking that they be provided with

a copy of the annual report for each system and by asking how the report was made public. More health authorities could assist suppliers to provide annual reports by, as the Fraser Health Authority and part of Vancouver Coastal have done, passing on the electronic results they receive from labs to water suppliers. In addition, water suppliers not currently providing annual reports should be encouraged to use the sample contained in the *Guide*.

Ombudsman Findings

F21 IHA, NHA, VCHA and VIHA do not have adequate procedures in place to ensure that water suppliers comply with the requirement under the *DWPA* that water suppliers provide annual reports that include results of water sampling to their customers.

F22 FHA, IHA, VCHA and VIHA do not post the results of water sampling on their websites.

Ombudsman Recommendations

R21 IHA, NHA, VCHA and VIHA develop systems that will allow them to monitor and track whether water suppliers have provided annual reports to their customers, and take steps to enforce compliance where necessary.

R22 FHA, IHA, VCHA and VIHA post the results of water sampling on their websites.

Inspections

Inspections are another tool that drinking water officers can use to monitor water quality. Inspections can be conducted either routinely in order to proactively identify issues that may become problems, or in response to a complaint. Routine inspections are particularly important for small water systems, which typically don't have certified operators or the resources of larger systems. Although routine inspections are only conducted on regulated water systems, the Act does also allow officers to inspect single-family residences, if human health is believed to be at risk.

While section 40 of the *DWPA* gives drinking water officers the authority to conduct inspections, the Act does not require that all systems be inspected. The Act is silent on the timing and frequency of inspections.[93] Most health authorities aim to inspect all systems, including small ones, at least once a year, however, as Table 11 shows, none of them seems to have been able to achieve this goal. Systems may be inspected more frequently depending on the drinking water officer's assessment of risk. The health authorities have different systems in place for assessing risk to water systems resulting in inconsistent assignment of hazard ratings across the province.

[93] See section 40(1) of the *Drinking Water Protection Act*, which states that, "for the purposes of this Act, a drinking water officer or issuing official may enter on or into any property and conduct an inspection and, in relation to this, has the same authority as a medical health officer under section 61 [*inspection authority*] of the *Health Act*." Subsection 40(2) states that, "The authority under subsection (1) must not be used to enter a private dwelling except with the consent of the occupant or as authorized by a warrant under this or another Act."

The *Guide* says that where inspections are conducted, the drinking water officer should

- assess the system's compliance with the *DWPA* and its regulations and the terms of its construction and operating permits;
- review the system's emergency response and contingency plan;
- review the system's monitoring and other records;
- determine if there are any threats to the system's source;
- identify any deficiencies in comparison with normal waterworks standards;
- review the system's cross connection control program;
- review the risk assessment rating;
- review the status of the suppliers' continuous improvement plan; and
- consider whether an assessment under section 19 is required.

We asked each of the regional health authorities to provide us with information on how frequently they inspect systems, what percentage of systems are inspected, how inspection results are tracked and whether they are reported publicly.

Table 11 — Inspection of Drinking Water Systems by Health Authority

Health authority	Inspection target	Percentage of systems inspected	How are results tracked?	Are results made public?
Fraser	Once per year.	2004/05 — 46% 2005/06 — 85% 2006/07 — 90%	In a database.	Yes. Posted on website with inspection dates, violations and hazard rating.
Interior	Priority is given to larger systems. Routine inspections for very small systems may be less than once per year.	2004 — 32% 2005 — 60% 2006 — 50% 2007 — 44%[1]	In a database.	No. Not reported publicly.
Northern	Uses risk rating to determine initial inspection frequency.	2005 — 34.9% 2006 — 48.8% 2007 — 41%[2]	In a database.	Yes. Posted on website.
Vancouver Coastal	Lower risk — once per year. Moderate risk — twice per year. Higher risk — three times per year.	2004/05 — 46% 2005/06 — 60% 2006/07 — 82%[3]	In two separate databases, but plan to merge them into one.	No. Not currently reported. Now working on a public portal that will allow access to inspection information.

Health authority	Inspection target	Percentage of systems inspected	How are results tracked?	Are results made public?
Vancouver Island	Once per year.	No information provided (see below).	In a database.	No. Not reported publicly.

[1] Not all data for the 2007 calendar year had been recorded at the time that the information was provided.
[2] Up until December 9, 2007.
[3] VCHA is made up of the Vancouver Coastal region and the Coast Garibaldi region. These are combined percentages for the Vancouver Coastal region and Coast Garibaldi regions.

VIHA indicated that it could not respond to our request for information about the percentage of systems inspected. They did, however, give the following explanation:

> …this is a very poor data set to actually derive any conclusions from. It does not tell you whether the same systems were inspected year after year, or how many inspections a system received. It is really a quantity vs. quality issue. Also, if [sic] does not account for why there might have been a different % completed year to year. I would advise that these stats be used cautiously to draw conclusions about performance from.

While we acknowledge this and understand health authorities' capacity to conduct routine inspections is affected by resources and geography, inspection goals may be set in policy or practice by either the Ministry of Health or health authorities. The information we collected identifies if any goals or policies have been developed, and if so whether these goals are being met.

Unfortunately, as is apparent from Table Eleven, none of the health authorities has yet been able to meet the goal of inspecting all systems once per year. It is encouraging that the percentage of systems being inspected every year is generally increasing.

It is also evident that practices in making inspection results available to the public vary across the province. Some health authorities put them on their websites and others provide the information upon request.

Ombudsman Findings

F23 While the regional health authorities have set inspection goals, these goals are not being met.

F24 IHA, VCHA and VIHA do not include the results of inspections on their websites.

Ombudsman Recommendations

R23 The regional health authorities have written and publicly accessible inspection goals.

R24 IHA, VCHA and VIHA report the results of inspections on their websites.

Case study — Emergency Response and Contingency Plans

Water suppliers must meet many requirements under the *DWPA* and its regulations, including

- supply water that is potable and meets any requirements set out in the Regulation and the operating permit;
- disinfect surface water;
- obtain a construction permit to construct a water system;
- hold an operating permit and comply with the conditions;
- meet the operator training certification requirements;
- have an emergency response and contingency plan;
- engage in sample monitoring as required by the regulations, their operating permit or a drinking water officer;
- immediately notify the drinking water officer of positive sampling results;
- immediately notify the drinking water officer of other threats to drinking water;
- provide public notice of threats to drinking water;
- make various types of information available to the public;
- flood proof wells;
- conduct water source and system assessments if required by regulation or a drinking water officer; and
- participate in the development of a drinking water protection plan if required.[94]

Drinking water officers are responsible for monitoring and enforcing compliance with these requirements. While assessing compliance with all the requirements under the *DWPA* was outside the scope of this investigation, we decided to review operator compliance with the requirement to have emergency response and contingency plans (ERPs) as a test case.

The *DWPA* requires all water suppliers to have an emergency response and contingency plan that can be activated in the event of an emergency or other abnormal circumstance affecting the water supply system.[95] Emergency response and contingency plans must include the following information:

- the names and telephone numbers of management personnel, the drinking water officer, medical health officer, public health inspector and other agencies or officials required by the drinking water officer;
- the person to be contacted in the event of an emergency or abnormal circumstance;
- the steps to follow in the event of an emergency or abnormal circumstance; and
- protocols to follow respecting public notice if a reporting standard is not met.

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[94] In some cases the *Drinking Water Protection Act* imposes requirements only on prescribed systems (those specified as such in the Regulation). Section 4 of the *Drinking Water Protection Regulation*, B.C. Reg. 200/2003, provides that all water supply systems are prescribed as being covered by the requirements of sections 8, 10, 11 and 22(1)(b) and all systems except small systems are prescribed for by section 9.

[95] *Drinking Water Protection Act*, S.B.C. 2001, c. 9, s. 10 and *Drinking Water Protection Regulation*, B.C. Reg. 200/2003, s. 13.

Water suppliers are required to make the emergency response and contingency plans accessible to water systems' staff and to provide a copy to the drinking water officer. They are also required to make a summary of the plan available to the system's customers or users. Plans are to be reviewed annually, and updated as circumstances change so that they are current.

We asked each of the five regional health authorities to tell us how they monitor compliance with this requirement and the percentage of water supply systems in their region that have ERPs.

Table 12 — Water Systems with Emergency Response and Contingency Plans (ERPs)

Health authority	Percentage of systems that have emergency response and contingency plans
Fraser	WS1 — 100% WS2 — 76% WS3 — 69% WS4 — 55%[1] **Avg. — 68%**[2]
Interior	The IHA categorizes ERPs according to whether they meet the needs of the system. IHA told us that approximately 50% of water systems have ERPs that meet the needs of the system and that few small water systems have ERPs.[3]
Northern	36% have ERPs.
Vancouver Coastal	WS1 — 86% of systems have ERPs. WS2 — 79% of systems have ERPs. WS3 — 35% of systems have ERPs.
Vancouver Island	Information not provided.

[1] Water systems are commonly classified by health authorities according to the number of connections they serve. WS1 systems are large systems that serve more than 300 connections. WS2 systems serve small to medium communities and have from 15 to 300 connections. WS3 systems are very small community supply systems, with two to 14 connections. WS4 systems are single commercial establishments which provide drinking water to non-resident (transient) populations such as day care centres, gas stations, trailer parks, campgrounds, and restaurants, and typically only have one connection.

[2] On May 6, 2008, FHA indicated that they increased the percentage of systems with ERPs to 91 per cent in 2007/2008.

[3] IHA provided us with a list of water systems that have ERPs that do not meet the needs of the system (including systems with no ERPs), those with ERPs that only partially meet the needs of the system, and those with ERPs that meet or exceed the needs of the system. Based on our calculations, approximately 54 per cent of systems either do not have ERPs or have ERPs that do not meet their needs. Approximately 30 per cent of systems have ERPs that partially meet their needs, and approximately 16 per cent have ERPs that meet or exceed their needs.

VIHA could not provide the information we requested, but explained:

> We can't pull that information at this time. However, it is important to note, that even if we could, it does not necessarily indicative [sic] of the number of systems which have them {ERPs}. They may have put a plan in place since the last inspection and it is not yet in our

database. What is even more important to VIHA is that the plans are up to date and that staff actually are trained to implement them. Merely tracking the numbers isn't really an effective way to ensure the public's health is protected....VIHA retains some ERPs but not all. Currently data is being entered into HealthSpace but it is not yet complete. Some plans may be on file but it is not feasible or necessary to retain copies of hundreds of plans.

IHA takes action

In 2003, the Interior Health Authority made completing an emergency response and contingency plan a permit condition for one of the systems in its jurisdiction. The supplier did submit a plan to the health authority that year, but did not update in 2004. In 2005, a condition was again placed on the system's permit, requiring the supplier to update the plan. When this hadn't been done by early 2006, the health authority reminded the supplier of the condition in conversations and by noting it in inspection reports. The health authority is now taking enforcement action against the supplier for, among other things, not complying with the requirement to have a current emergency response and contingency plan.

We agree with VIHA regarding the importance of water systems having ERPs that are up-to-date and with the importance of staff being trained to implement them. However, it is equally important that all systems have ERPs and that the health authorities retain copies. In the event of an emergency, water suppliers consult with drinking water officers whose job it is to provide advice on how to proceed. In order to effectively do their jobs, drinking water officers need to have access to water systems' ERPs. While the number of systems that have emergency response and contingency plans has increased since the *DWPA* came into force, after nearly five years there are still a significant number that do not have them.

Clearly small systems find it more of a challenge to comply with this requirement. Health authorities have made some efforts to assist these operators with developing emergency response and contingency plans. The Ministry of Health has also developed a booklet to assist operators of small systems to develop their own ERPs, and has created a sample ERP that is available in Appendix 4 of the *Drinking Water Officers' Guide*. Given that an ERP is a legislative requirement as well as an important means of ensuring water systems are prepared for catastrophic events, greater efforts should be made to increase the number of systems that are in compliance with the Act.[7] Since water suppliers are also required to provide a copy of their plan to drinking water officers, each health authority should also have a system for filing and tracking ERPs.

Ombudsman Finding

F25 The regional health authorities do not adequately enforce the requirement under the *DWPA* for water suppliers to have emergency response and contingency plans, especially in the case of small systems.

Ombudsman Recommendation

R25 The regional health authorities enforce the requirement for water suppliers to have emergency response and contingency plans. Health authorities should retain copies of the plans and have a system in place to track the level of the compliance with the requirement for all water systems to have emergency response and contingency plans.

Remedial Action and Enforcement

All the health authorities told us that they try to obtain voluntary compliance from water suppliers, before taking formal steps. Under the *DWPA* there is a wide range of remedial action and enforcement that drinking water officers can take in cases of concern or non-compliance, including:

- amending an operating permit;
- issuing an order to review and update an emergency response and contingency plan;
- issuing an order for public notice of a threat to drinking water;
- issuing an order to flood-proof a well;
- issuing a hazard abatement and prevention order;
- issuing an order respecting a contravention;
- taking action where water supplier fails to take action;
- requesting that provincial health officer recommend a drinking water protection plan;
- issuing violation tickets; and
- laying charges.[96]

The health authorities acknowledge the importance of progressive enforcement policies, which ensure that water suppliers receive information about compliance problems and have the opportunity to respond and remedy the problem before penalties are enacted. However, progressive enforcement policies should include guidance for staff on establishing time frames and establishing consequences for not taking action in the specified time frames.

The Northern and Interior health authorities have progressive enforcement policies that apply to their environmental health programs. VIHA has a draft policy on progressive enforcement but did not provide us with a time frame for finalizing the draft.[97] FHA is in the process of developing a drinking water program guideline on progressive enforcement, which it hopes to have available by the end of July. VCHA's progressive enforcement policy is a one-page notice to water systems on boil advisories that advises suppliers that they are in violation of the *Drinking Water Protection Act* and that VCHA is using progressive enforcement action as part of the strategy to reduce systems with unsafe water and reduce rates of water-borne illness. The letter provides a timeframe in which water suppliers are expected to have developed plans to install treatment.

We were told by health authority management that in practice, violation tickets are rarely used and that there has only been one request for the Crown to lay charges under the *DWPA*. The following table outlines the number of enforcement orders issued to water suppliers by health authorities since May 16, 2003.

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[96] Please see sections 8(4), 10(2), 14, 16(1), 25-28 and 31 of the *Drinking Water Protection Act*. Drinking water officers can also issue orders under the *Water Act*, R.S.B.C. 1996, c. 483.

[97] VIHA explained that its draft policy reflects its current progressive enforcement procedures.

Table 13 — Orders Issued Under the *Drinking Water Protection Act*

Health authority	Number of orders issued under *DWPA* since May 16, 2003
Fraser	3
Interior	Unable to provide without going through all physical files.
Northern	5
Vancouver Coastal	15
Vancouver Island	7

We reviewed the enforcement files provided by the health authorities and observed the following:

- The health authorities rarely issue violation tickets.
- The health authorities appear to be reluctant to escalate enforcement.
- Generally, long periods of time were spent working with water suppliers to gain voluntary compliance, in many cases years.
- The public appeared frustrated with the lack of formal enforcement action taken against drinking water suppliers.
- In some cases, no timelines for compliance or consequences for failing to comply were provided.

The low numbers of orders, violation tickets and charges that have been made since the *DWPA* came into force was surprising to us, given the statement made by the then-Minister of Health Services, that, "the tolerance shown to non-complying systems in the past will not be afforded to systems in the future." This does not seem to be the case.

The *DWPA* does place numerous requirements on water suppliers, and, as shown by our emergency plan example, many of them are still not in compliance with these rules. While it may have been reasonable for health authorities to provide water suppliers with time to voluntarily comply, five years have now passed, and this should have been ample time. We believe that each health authority should assess the degree to which the water systems in its jurisdiction are complying with the *DWPA*, and that each should have an active enforcement component to ensure effective consequences for continued non-compliance.

Ombudsman Findings

F26 The regional health authorities are not utilizing the full range of enforcement options available to them under the *DWPA* and Regulation.

F27 FHA does not have progressive enforcement policies.

Ombudsman Recommendations

R26 FHA develop and follow progressive enforcement policies.

R27 The regional health authorities utilize the full range of enforcement options available to them to bring water systems into compliance with the *Drinking Water Protection Act* and Regulation.

An old problem still not resolved – an example of compliance vs. enforcement

A small resort in B.C. was receiving its drinking water from a lake that is the drinking water source for three water supply systems. In 1998, the owner of the resort proposed to build an expansion and wrote to the health authority indicating that he would install a new sewage disposal system. The expansion occurred, however the owner did not install a new sewage disposal system and it does not appear that the health authority followed up with the owner regarding the installation.

The health authority received several complaints between 2002 and 2007 that the holding tank at the resort was overflowing and that sewage was spilling into the lake. The health authority required the owner to install a high-water alarm system and water shut-off switch in May 2002. In June 2007, the health authority requested that the owner install a new holding tank system. The owner assured the health authority that he had hired an engineering company to design a holding tank system and that an application would be submitted shortly.

Despite the assurances from the owner, the health authority continued to receive complaints. One complainant noted that, "tourists were walking through sewage." In late August 2007, the drinking water officer sent a letter to the owner outlining the actions to be taken and timelines for doing so.

After receiving additional complaints at the end of August, the drinking water officer had a public health nurse take photographs of the system and then inspected it on September 1 and September 2. The photographs showed sewage effluent entering into the lake and the drinking water officer concluded that spills into the lake had likely occurred in the past. He concluded that the tanks were undersized and that the alarm system was the only check in place. He concluded that if the alarm system is not operating properly, there is high probability of the tanks overflowing.

The drinking water officer decided to issue a verbal order to the manager and owner requiring that an adequate holding tank system be installed, and that the alarm system and the shut-off switch be assessed and repaired if necessary. He then issued a written order under section 40 of the DWPA on the basis that the UV disinfection system was not functioning properly and the operator does not have training in the operation of a water system. The officer ordered the owner to

- *immediately issue a boil water advisory notice indicating that water is to be boiled for one minute prior to consumption;*
- *post a sign at every sink or drinking water fountain accessible to the public indicating that the water is not potable;*
- *disconnect any pop/juice fountains and ice machines supplied by the water system;*
- *obtain a construction permit, and install adequate treatment equipment prior to December 31, 2007; and*
- *ensure the person responsible for the ongoing maintenance and operation of the water system had completed the small water systems course prior to December 31, 2007.*

The order indicated that it would remain in effect until the work had been completed and water was shown to be potable. It is interesting to note that the written order did not include a requirement for the owner to install an adequate holding tank. As of April 2008, the required work was not completed and the boil water advisory was still in effect.

Investigation

Up to this point in the report, we have discussed issues that relate to all water supply systems in B.C., including small systems. These include access to approved laboratories for the testing of drinking water samples; approaches to issuing advisories due to turbidity; causes, effects and dangers of message fatigue; notification by the health authorities of the provincial health officer's advisory to people with compromised immune systems; tools and assistance needed from the government in order for systems to have long-standing boil water advisories lifted; and approaches to monitoring and enforcing the *Drinking Water Protection Act* (*DWPA*) and the *Drinking Water Protection Regulation* (*DWPR*). This section focuses on issues affecting small systems.

What Are Small Water Systems?

Small water systems are an important part of British Columbia's drinking water infrastructure, and they pose unique challenges for both their operators and the agencies that regulate them. Under the *DWPA*, a small water system is one that serves up to 500 individuals during any 24-hour period.[98] Understandably, it is difficult to assess how many individuals are served by a system in any 24-hour period.[99] A small water system may be operated by individuals, partnerships, societies, companies, improvement districts or utilities.

All water supply systems are regulated by health authorities, through their drinking water officers. As with other systems, the *DWPA* requires small systems to

- have their water system construction proposals approved by an issuing official under the Act, unless this requirement is waived;
- comply with operating permits, which may contain specific conditions and are set and approved by the drinking water officer in each health authority;
- meet minimum standards for water treatment and quality, monitoring and testing;
- have microbiological samples analyzed by an approved laboratory;
- notify the public of water quality problems;
- have an operator certified through the Environmental Operators Certification Program, if a drinking water officer requires this as a condition of its operating permit;
- prepare an assessment response plan if an assessment has identified threats to the drinking water provided by the water supply system; and
- have a written emergency response and contingency plan, to be implemented in the event of an emergency affecting the water supply system or the drinking water source.

Small systems are exempt from the *DWPA* requirement to provide potable water if

- the system does not provide water for human consumption or food preparation purposes, and is not connected to a water supply system that provides water for human consumption and food preparation purposes; or

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[98] *Drinking Water Protection Regulation*, B.C. Reg. 200/2003, s. 1.

[99] The health authorities, the provincial health officer and the Ministry of Health actually classify systems based upon each system's number of connections, rather than an estimate of the population served. Details on how water systems are classified by the health authorities can be found in this report, in the section on *Sampling Frequency*.

- each recipient of the system's water uses point-of-entry or point-of-use treatment to make the water potable.[100]

Small systems are not bound by all the provisions of the *DWPA* and Regulation and drinking water officers have flexibility in applying these sections to small water systems. In addition, drinking water officers can include terms and conditions on a small system's operating permit that are more stringent than the requirements set by the Act or the Regulation. A drinking water officer can also set terms and conditions that are less stringent than the Act and the Regulation in the following two areas:

- frequency of sampling; and
- dates by which operators must be certified. This flexibility is generally exercised to allow suppliers extra time to obtain the training and experience necessary to achieve certification.[101]

How Many Small Water Systems Are There in B.C.?

Various agencies have attempted to quantify the number of small systems that exist in B.C. As of November 2005, the Ministry of Health had identified 2,145 systems serving between two and 14 connections, and 970 systems serving between 15 and 300 connections.[102] As of April 2008, the Office of the Provincial Health Officer had identified 4,360 systems serving between two and 300 connections, however it was impossible to say for certain how many of these met the definition of small systems set out by the *DWPA*. The BC Water & Waste Association estimates that there are currently approximately 3,000 small systems in the province. In addition, it is estimated that there may be up to 1,000 small systems in each of the Northern and Interior regions which have not yet been identified.

Private Water Utilities

Most private water utilities serve fewer than 100 users. A water utility is defined in the *Water Utility Act* as a person who owns or operates equipment or facilities for the delivery of domestic water service to five or more persons or to a corporation for compensation.[103] The most common set of circumstances that leads to the creation of a private water utility arises when an individual or company wants to prepare a rural area for housing, and is required to provide water service as a condition of subdivision approval. As of May 2008, there were 166 private water utilities in the province.[104]

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[100] *Drinking Water Protection Act*, S.B.C. 2001, c. 9, s. 6. A point-of -entry device treats water entering a home or other building. It is usually located on the outside of the building or in the basement. A point-of-use device treats the water at a single tap, usually at the kitchen sink.

[101] See *Drinking Water Protection Act*, S.B.C. 2001, c. 9, s. 8(5) and the *Drinking Water Protection Regulation*, B.C. Reg. 200/2003, ss. 8(3), 12(4).

[102] Ministry of Health, Application of "Point of Entry" and "Point of Use Water Treatment Technology in British Columbia (2007), 12 <http://www.health.gov.bc.ca/protect/poureport_main.pdf>.

[103] *Water Utility Act*, R.S.B.C.1996, c. 485, s. 1. The definition of a person also includes a corporation or a partnership.

[104] Figure was provided by the Office of the Comptroller of Water Rights, and is accurate as of May 26, 2008.

Under the *Water Utility Act* and the *Utilities Commission Act*, the comptroller of water rights, Ministry of Environment, is responsible for the regulation of private water utilities. The comptroller is responsible for ensuring that water systems installed by land developers are properly designed and constructed, and that utility customers receive acceptable water service at reasonable rates.

The Role of the Comptroller of Water Rights

In cases where a water utility serves a subdivision, the utility or its extension must be authorized by the comptroller before a subdivision can be approved.

When the comptroller's staff receives an application for either a new utility or an extension to an existing one, they are required to evaluate the system's design and financial viability. As part of the approval process, the developer will be required to construct the system in accordance with design standards and to hold contingency funds. When these requirements are satisfied, staff will recommend that the comptroller issue a *Certificate of Public Convenience and Necessity* (CPCN). A CPCN authorizes a utility to construct and operate works and to provide water service to customers within a specified area. It describes the conditions under which the utility is established and will operate. The process of granting a CPCN is designed to coordinate with the subdivision approval process.

Access to Funding

All water systems in the province are continually requiring funds to operate and facing increased costs due to the need for infrastructure improvements, treatment upgrades, and compliance with regulations. For small systems, however, access to funding is a particular challenge.

Operators of municipal and regional water systems may apply for two types of grants administered by the Local Government department of the Ministry of Community Services. Infrastructure planning grants may provide up to $10,000 for the purposes of planning and feasibility studies that support sustainable drinking water projects.[105] However, only municipalities and regional districts are eligible for these grants. All other water systems, including those run by improvement districts, are not eligible for these grants. This was the most common complaint we heard from small system operators during our investigation.

Improvement districts can pay for infrastructure upgrades through taxation, user fees, or loans secured by municipalities.[106] Other small systems must raise the funds for infrastructure or treatment upgrades privately. Many operators wonder why the government continues to allow small systems to be created while restricting their access to the funding sources that are available to larger systems. This is a serious problem given that operators of small systems often need to make substantial investments in infrastructure in order to comply with the *DWPA*. Lobbying the provincial government for more financial assistance and flexibility is one of the top priorities of the Small Water Users Association of B.C.

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[105] Projects include engineering studies, infrastructure assessments, water metering pilot projects, water treatment plans, and well protection plans. Capital grants provide partial funding to municipalities and regional districts for the renewal, upgrade and/or development of new drinking water infrastructure. Eligible projects may include water treatment or distribution systems upgrades and installation of water meters.

[106] Taxation in improvement districts is usually done on a parcel tax basis. Tax and toll collection dates can be at any time during the year.

While water utilities are also ineligible for provincial government infrastructure grants, their funding challenges are slightly different than the ones confronting improvement districts. The only sources of funding available to utilities for infrastructure improvements are their own capital reserves or rate increases approved by the comptroller of water rights. Utility owners we met said this leaves them trapped. On one hand, the health authorities order them to make improvements, but on the other, they must wait to gain approval from the comptroller for the rate increases that would fund them.[107] Utility owners argued that in such situations, there should be some way to expedite the approval process for rate increases.

Another obstacle facing utility owners is that they typically don't have any assets other than the infrastructure of the systems themselves, i.e. "the pipes in the ground."[108] This makes it impossible for owners to finance system improvements through borrowing.

Reducing the Number of Water Utilities

The comptroller's staff told us that they are opposed to the "proliferation of small systems" and that the creation and regulation of private water utilities is only a "stop-gap measure" until local governments are able and willing to take them over:

> As the majority of the small water utilities are now more than 25 years old, most are or will be, in the near future, facing requirements for infrastructure improvements that may be cost prohibitive without substantial rate increases or some level of financial assistance. Also, the new drinking water legislation will require, in many cases, improvements to these small water systems that will be beyond their financial capabilities. Because of the challenges facing the small water systems, therein lies the challenge of the Comptroller office to be able to effectively regulate small water utilities. The challenge is to be able to shepherd these water systems until they can be transferred to local government authorities such as Regional Districts and Municipalities.

In the interim, the comptroller's staff are taking the following steps to reduce the number of water utilities:

- Before assessing a new utility licence application, they first determine whether a neighbouring system or local government can provide water service to the applicant instead. (If there is a neighbouring water utility, they can compel that utility to provide service to an applicant.) If the answer is no, then they will review the application.
- During the licence application review process, they focus on what will happen after a utility and system is created, and whether there is a plan in place to ensure the system's sustainability.[109]

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[107] According to the Office of the Comptroller of Water Rights, the average rate approval application processing time is 60 to 80 days from the date an application is received.

[108] Office of the Comptroller of Water Rights.

[109] The provincial health officer has identified that the comptroller's approach to reducing the number of private water utilities has had the inadvertent and undesirable result of encouraging developers to build subdivisions in a way that eludes regulation by the comptroller's office. For more information, see Office of the Provincial Health Officer, *Progress on the Action Plan for Safe Drinking Water in British Columbia*, (2006), 65. <http://www.health.gov.bc.ca/pho/pdf/WaterReport.pdf>.

It seems that another logical step to take to reduce the number of water utilities in the province is to analyze current boil water and water quality advisories in the area where the new system will operate. This would allow the comptroller's office to see if additional permit conditions are necessary to minimize the risk of future water safety or quality problems, before approving new water systems.

The following are statistics provided by the comptroller's office for the fiscal years 2002/03 to 2007/08:

- 30 CPCN applications for new private water utilities received;
- Seven CPCN applications for new private water utilities rejected;
- 18 CPCN applications for new private water utilities approved; and
- 18 private water utilities transferred to larger systems.[110]

While the comptroller's staff state the office is focused on reducing the number of water utilities in the province, they have not made any progress in the reduction of total water utilities since 2002/03.

What Can Go Wrong?

Because so few people are involved with small systems — either as operators or customers — it's easier for their problems or gaps in their operations to go unnoticed. One example of this is the complaint our office received from the customers of a private water utility that operated a small water system starting in 1989. The residents complained that the water system had fallen into a state of disrepair. In 2006, the customers discovered that the society that operated the system had actually not legally existed since 1997, when it was dissolved after failing to file the required documents, such as its annual report and financial statements (see box — How and why are water utilities dissolved?).

As required, the Ministry of Finance's Registrar of Companies published a notice of the dissolution in the BC Gazette. However, this did not result in action on the part of either the comptroller of water rights or the attorney general who, under the *Escheats Act*, owns the property of any society after it dissolves.

Despite the dissolution, the water system continued to operate and the customers were billed in the society's name. The residents say they were never informed that the society no longer existed.

Since the comptroller of water rights is responsible for regulating water utilities in the public interest, we were surprised to learn that the office was not aware of the water society's dissolution until 2006. When we asked about the comptroller's role in regulating utilities and how utilities report to the office, we were told that:

> The Comptroller does not oversee the day to day operations of water utilities. The Comptroller reviews rate applications and approves rates that are adequate in order for a utility to be able to be properly operated and maintained while also considered to be fair and reasonable.

[110] The comptroller's office provided us with these statistics on February 27, 2008. After that date, two more CPCN applications for new private water utilities were approved and three private water utilities were transferred to larger systems. Five applications were outstanding at the start of fiscal year 2002/03 and 10 were outstanding as of March 31, 2008.

> Utilities are required to submit annual report forms together with a copy of their current financial statements. These forms are sent out to Utilities at their fiscal year end and are required to be completed and submitted within 90 days.[111]

With regard to the example above, the Office of the Comptroller of Water Rights told us that, "although a number of letters and annual report forms were sent to the utility from 1997 to 2006, no responses were received." Despite this, the comptroller's office took no further action to obtain the required documents, and was unaware of the dissolution.

How and why are water utilities dissolved?

Water utilities that are operated by a company, corporation or incorporated non-profit society must register with the Ministry of Finance's corporate registry and file certain documents (such as an annual report) and pay fees to maintain their active status. Annual reports must include the name, title and address of every member of the board of directors. The officers of the company, corporation or society must declare that the information filed is complete and accurate.

If the directors of a society, for example, fail to file an annual report or other required document, the Registrar of Companies may remove the society from the registry. Once struck from the registry, a society is dissolved and ceases to exist. Up until 2004, the registrar published notices of dissolution in the BC Gazette. The British Columbia Gazette Part I, which includes Corporate Registry notices, is now published weekly on QP LegalEze. Notices of Intent to dissolve and dissolutions are published on QP LegalEze.[1]

When a society dissolves, any assets it possessed pass (or escheat) to the Crown. This means that ownership of any property, including land, held at the time of dissolution is transferred to the government.

This process is governed by the Escheats Act, which says the government must not dispose of escheated property until two years after a dissolution. If a society is restored within two years of its dissolution, the property re-vests, (is transferred back to the society). If the restoration happens more than two years after dissolution, the directors may apply to the escheats office for a ministerial order, however in order to do this, they require approval by the attorney general or deputy attorney general.

[1] QP LegalEze is a web-based subscription service providing access to the current laws of British Columbia.

We looked at whether the comptroller's office had a compliance and enforcement policy and what steps it took to enforce compliance with reporting requirements. Comptroller staff explained that they did not have a compliance or enforcement policy, but that under the provision of the *Water Utility Act* and *Utilities Commission Act* (*UCA*), the comptroller may issue orders to water utilities to take specific action. If a utility fails to carry out an order, pursuant to the *UCA*, the comptroller can seize the management and operation of the utility for the purpose of carrying out that order.[112] Section 43 of the *UCA* requires utilities to provide any information required by the comptroller and to return and fully complete any form received from the comptroller. Presumably this includes annual reports and financial statement forms. It is an offence under the UCA to do anything contrary to the Act and to fail to provide information required by the comptroller.

[111] Office of the Comptroller of Water Rights.

[112] *Utilities Commission Act*, R.S.B.C. 1996, c. 473, ss. 96-97.

However, comptroller staff stated that those acts lack the "teeth" required to effectively penalize non-compliance by water utilities. We were told that the best means of obtaining compliance is through communication with utility owners and, in some cases, requiring a utility to take action such as submitting outstanding annual reports before releasing reserve funds.[113]

In 2006, the attorney general's office identified 11 water utilities that had dissolved and had their assets escheat to the Crown. To ensure these systems were properly maintained, the government issued ministerial orders, appointing the comptroller to manage the operations on their behalf. The comptroller did take over the operations of many of these systems, including the system in this example. Since then, some of these systems have been transferred to local governments. The residents served by the water system in this example restored the society, took over the operation of the system, but had to undertake significant upgrades.

Ombudsman Findings

F28 The comptroller of water rights does not have an adequate process in place to ensure that it receives timely notification of the dissolution of societies or corporations that operate water utilities.

F29 The comptroller of water rights does not have adequate systems in place that ensure water utilities file their annual reports and other required documents.

Ombudsman Recommendations

R28 The comptroller of water rights take practical steps to ensure that it receives timely notification of the dissolution of water utilities such as using QP LegalEze to search for water utilities that have been dissolved or that have been issued notices of intent to dissolve, by June 1, 2009.

R29.1 The comptroller of water rights have a system in place that enables it to monitor whether reporting requirements are being met by water utilities and take enforcement action when necessary, by June 1, 2009.

R29.2 The Ministry of Environment review the *Water Utility Act* and the *Utilities Commission Act* to ensure that they provide sufficient authority for the Ministry to enforce compliance with reporting requirements.

To Amalgamate or Not to Amalgamate?

Why do so many small systems struggle to comply with the regulations and yet continue to resist the option of amalgamating with neighbouring larger systems?

[113] When a utility wishes to access its reserve funds, it must obtain the comptroller's approval. The comptroller's office can use this request as leverage to obtain outstanding annual reports before approving the release of funds.

From the perspective of health authorities and regional districts, the benefits of amalgamating are clear:

- Larger systems have greater resources (both financial and technical) at their disposal.
- Systems run by municipalities and regional districts are eligible for federal and provincial government grants.
- Small systems would no longer have to deal with liability issues.

However, many operators of small systems still see distinct disadvantages to amalgamation, namely:

- higher water rates;
- loss of autonomy and lower level of customer service; and
- initial costs associated with amalgamation, including the costs of upgrades to the system and fees for an engineering inspection.

Regardless of whether small systems choose to amalgamate or not, there are costs associated with providing drinking water that is safe and in compliance with the provisions of the *DWPA* and the Regulation. According to the health authorities, clean, safe drinking water has been, and continues to be, an undervalued resource, and some of those serviced by small systems do not understand what it really costs to provide it.

It is important to note that there is no way to require a regional district or municipality to take over a neighbouring small water system. Most regional districts are reluctant to acquire small water systems because they are often perceived as a liability, with significant costs and administrative burdens.

Given the current legislative framework, it seems problematic that the creation of new, small systems is permitted in situations where one larger system could be developed instead. Given the recent rapid pace of property development, it also seems short-sighted to allow the creation of new small water systems to service development if adjacent systems are already operating and sustainable. Allowing the creation of multiple new, small systems appears to be setting many of these up for ongoing safety and regulatory challenges.

To illustrate their contention that people served by small systems have historically not understood the real cost of providing safe drinking water, several authorities pointed out how people generally don't think twice about paying the price of cable television but often question increases to the cost of drinking water.

Small System Operator Training and Certification

Section 9 of the *DWPA* requires that any person who operates, maintains or repairs a water system be qualified to do so in accordance with the Regulation, or working under the supervision of someone who is. However, under the *DWPR*, small systems do not have to meet this requirement unless it is required in their operating permits.[114] We were advised that, although the Regulation does not generally require small system operators to be certified, the health authorities are moving towards making this requirement a condition of all small system operating permits.

[114] *Drinking Water Protection Regulation*, B.C. Reg. 200/2003, ss. 4(2), 12(4).

It is a huge challenge for small systems to find certified operators, and if they are found, retention is difficult. The board members of one improvement district we met with said it took them three years of active searching before they found a certified operator. Several small system operators told us that these problems are in part due to the existing training and certification processes.

The Environmental Operators Certification Program (EOCP) is responsible for establishing a classification system for water supply systems and competency standards and certification examinations for system operators in B.C.[115] Its mandate is to ensure "the long-term viability of a third party classification and certification process in British Columbia that is responsive to industry needs rather than government demands."[116] EOCP certification involves four factors:

- System classification — This requires identifying the level of knowledge and training required to operate that system. System classifications include small water systems, water distribution and water treatment systems. An operator must complete and submit an "application for classification of small water systems" to the EOCP in order to have a system classified as a small system.[117]
- Training — Operators must have either on-the-job or classroom training, or both.
- Experience — Operators must provide information about the length and type of their practical experience.
- Testing — Upon completion of the required training, an operator may take an EOCP certification exam. The EOCP certification board sets the times and locations of exams.

While the EOCP is responsible for testing operators, it does not provide any training. The EOCP officially recognizes a number of organizations, including the B.C. Water & Waste Association (BCWWA), Sacramento State University and Thompson Rivers University as providing training that small systems operators must take prior to writing the EOCP's small water systems exam.[118] The BCWWA consults with and reports to the EOCP when developing courses so that the curriculum corresponds to EOCP's certification criteria. We heard a number of concerns about operator training and EOCP certification from small system operators across the province, including the following:

- The disconnect between the EOCP and the BCWWA: While the EOCP runs the testing, BCWWA runs the training. An official with the Fraser Health Authority told us that the EOCP does not provide the BCWWA with any indication of what questions will appear on exams because it does not want the BCWWA "to teach towards the exams." Some operators noted that many of the questions on their exams concerned subjects that were never covered in their BCWWA courses.
- EOCP's minimum hours requirement: Many operators told us that, due to the relatively little maintenance and monitoring required by small systems, it is extremely challenging to accumulate the 50 hours of hands-on experience over a 6-month period required to obtain and maintain certification.

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[115] For more information, see the *Glossary*.

[116] Ministry of Health, "Environmental Operators Certification Program (EOCP)."

[117] Environmental Operators Certification Program, Application for Classification of Small Water Systems, <http://www.eocp.org/docs/smallwaterfacility-appl.pdf>.

[118] Training from Sacramento State University is provided online. Thompson Rivers University offers its WaterSafe course online. For more information on training agencies the EOCP recognizes, see <http://www.eocp.org/train.html>.

- EOCP's records and database: Operators told us EOCP's records were outdated. One operator who had 25 years of experience said he was incorrectly advised by EOCP that he didn't have enough experience to write an EOCP exam.
- Limited training and examination venues: Many small system operators who were required to take EOCP exams said it's difficult and expensive for them to travel to the places where the training courses and exams are held. The EOCP acknowledged this problem, advising the Ministry of Health in a letter that "the vast nature of our province and disproportionate distribution of population makes it difficult for many Operators to cost-effectively get to the training they need." However, the EOCP explained that the growing number of agencies offering small system operators online training has addressed this concern.

The operators who described these concerns said they had raised these issues repeatedly with the EOCP and BCWWA, but that their concerns were not adequately addressed.

It is vital that the ministry, in its oversight role of the EOCP, is aware of and responsive to the problems that may prevent the EOCP from achieving its mandate. We asked the ministry whether it had a mechanism in place to review with the EOCP complaints such as the specific ones we heard about from small system operators. The ministry explained that the EOCP is the certifying body and not the educational provider for water system training. Courses are delivered by independent providers such as the BCWWA. The ministry stated that it meets with the EOCP to discuss and review the EOCP's mandate and workplan. The EOCP's proposed 2008-2010 workplan addresses concerns including:

- establishing clear criteria for training activities that will qualify for the certification requirement of obtaining continuing education units (CEUs);
- establishing criteria and finding mechanisms for alternate credit for other activities;
- developing an outline for acceptable courses;
- establishing clear criteria for acceptable and qualified trainers; and
- preparing information for public posting and distribution.

BCWWA states that it tries to accommodate requests for courses in particular areas. As of January 28, 2008, the BCWWA offered small water system training courses in Victoria, Prince Rupert, Kamloops, Qualicum Beach, Cranbrook and Vancouver. The BCWWA acknowledges that:

> *Due to the very wide distribution of small water systems (SWS) around the province, we are not always able to deliver training where it is required. In 2005 when the Ministry of Health directed that SWS operators be certified, they provided some funding that enabled us to deliver training in those areas where the costs would have otherwise been prohibitive.*

Thompson Rivers University currently offers "WaterSafe," a course of basic instruction for owners and operators of small water systems, in addition to its Water Treatment Technology Program. Drinking water officers are increasingly requiring small system operators to take the WaterSafe course as a condition on operating permits. The course can be taken on a "distance" basis or online through the university.

Investigation

In response to the small system operators' concerns that we described, the Ministry of Health explained that:

> The EOCP has, on numerous occasions, advised local educational providers (BCWWA) of the need to advise students that the BCWWA course will not provide 100% of the information contained in the examination administered by EOCP and that the remainder of the information is to be obtained by the individual through the six months of hands-on experience as a water operator (which is also pre-requisite to obtaining certification) and through other independent learning. The EOCP is currently revamping some of their course requirements and their course evaluation processes and will be ensuring that this concern regarding the relationship between course content and EOCP exams be communicated in writing by the course providers to water operators.

The EOCP has acknowledged the inconsistency in the training being provided to operators, stating:

> A co-operative project to bring together as much of the trainers as possible to establish standards and understanding with respect to all forms of operator training in the province would benefit all stakeholders… certifiers would have a much clearer understanding of the training completed to advance certification to higher levels and for compliance with the Continuing Education Requirement… the recipients of the training, the certifiers, and the regulators would all have the assurance that the components, whether they be stand-alone or incorporated into a larger delivery, provide comparable instruction.

We were provided a copy of a letter in which the EOCP called upon the ministry for additional resources to address areas of operator training needing significant improvement, including:

- the need to evaluate and ensure standardization of all operator training programs in the province;
- the need to provide direction to the agencies providing operator training;
- the need to establish operator standards consistent with other Canadian jurisdictions;
- the need to promote new training opportunities throughout the province, including training locations and delivery methods; and
- the need to make changes and improvements to the EOCP's data handling system.

The EOCP stated that it needed the ministry's support to "demonstrate to the Ombudsman" that the EOCP and its partners "can deliver on Health's mandate of protecting Public Health."

Ombudsman Finding

F30 The Ministry of Health has not adequately addressed the concerns raised by the Environmental Operators Certification Program and small system operators about operator training and certification.

Ombudsman Recommendation

R30 The Ministry of Health take the necessary action to ensure that these concerns are addressed and that the training and certification processes interface effectively. In the alternative, the Ministry of Health assume responsibility of the training and certification process itself, by June 1, 2009.

Small System Challenges — from the Authorities' Perspectives

One of the particular challenges for regulators is identifying small systems. This is a challenge because really small systems may simply consist of a residence for two families, a bed and breakfast business, a bunkhouse, or a residence with a guesthouse or other outbuildings.[119] Small systems may have been created prior to the *DWPA* coming into force or they may be created more recently without the knowledge of the drinking water officer.

For example, under the *Water Act*, an individual can obtain a license to use surface water for a number of purposes including for drinking water for a household. However, once it serves more than one household, the water system becomes a water supply system and falls under the regulatory provisions of the *DWPA*. IHA explained that:

> One historical problem has been water systems created under the *Water Act*, which are typically water licenses that are allowed to construct works for carrying water, and provide water to more than [one] single family dwelling. We usually never hear about these until there is a dispute amongst users and they want 'Health' to solve their problems.

Not surprisingly, such systems are often unknown to the health authorities and consequently, they often operate without permits.

Across the province there are small systems that have not yet been identified or regulated by health authorities. There could be as many as 1,000 such systems under the jurisdiction of the Northern Health Authority, 1,000 within the area covered by the Interior Health Authority, and hundreds more within the Vancouver Island Health Authority. We asked the health authorities whether they were planning to identify these unmonitored and unregulated systems. Their responses are summarized in the following table.

Table 14 — Identification of Unregulated Small Systems

Health authority	Plans to identify unregulated small systems
Fraser	Not actively seeking out such systems.
Interior	Not actively looking for existing systems without operating permits. IHA is developing a long-term strategy to track and regulate systems it knows are operating without permits.
Northern	Not actively looking for unmonitored systems. "It is our plan to first work with our present systems to move them to compliance. Once we have completed that we will work with our regional districts and municipalities as well as Ministry of Environment to identify additional systems."

[119] Drinking Water Leadership Council, *Drinking Water Officers' Guide* (2007), 20.

Health authority	Plans to identify unregulated small systems
Vancouver Coastal	Not actively looking for existing systems without operating permits.
Vancouver Island	VIHA has undertaken an extensive water system inventory project. VIHA currently does not have the resources to continue actively searching out water systems that are not already identified.

Each of the health authorities said it is a constant challenge to balance their limited resources against their goal of improving the quality and safety of the drinking water provided by small systems. Health authorities said that the reality of limited resources has led them to focus most of their time and resources on systems that serve larger populations.

Ombudsman Findings

F31 The Ministry of Health has not ensured that adequate processes are in place to enable the regional health authorities to identify and regulate all small systems.

F32 The regional health authorities are not proactively identifying small systems that fall under the *DWPA* and Regulation.

Ombudsman Recommendations

R31 The Ministry of Health ensure that adequate processes are in place to enable the regional health authorities to identify and regulate all small systems, including working with the Ministry of Environment and health authorities to ensure the timely exchange of information such as the issuance of *Certificates of Public Convenience and Necessity* and licences under the *Water Act*, by January 1, 2010.

R32 The regional health authorities proactively work to identify all small systems within their regions.

Table 15 — Small System Challenges Identified by Health Authorities

Health authority	Insufficient access to funding for infrastructure improvement	Completing emergency response and contingency plans (ERPs)	Maintaining consistent sampling frequency	Access to training	Other challenges
Fraser	X	X	X	X	
Interior	X				The need to educate people supplied by small systems about the need for water treatment.

Health authority	Insufficient access to funding for infrastructure improvement	Completing emergency response and contingency plans (ERPs)	Maintaining consistent sampling frequency	Access to training	Other challenges
Northern	X	X	X	X	During the winter months, it is often difficult to meet the requirement of having water samples shipped to an approved lab within 30 hours of the sample being taken, because of samples freezing and difficulties related to transportation.
Vancouver Coastal	X			X	The costs of actually getting health authority staff out to systems in remote areas. The fact that small systems often do not have a clearly identified owner, operator or point of contact.
Vancouver Island	X		X	X	The disproportionate costs required to identify and monitor systems in remote areas. Many of the small systems are accessible only by boat or seaplane.

As Table 15 indicates, the health authorities recognize the serious challenges small systems face in complying with the provisions of the *DWPA* and Regulation. In 2002, the provincial government approved the *Action Plan* for Safe Drinking Water in B.C. In response to the *Action Plan*, in early 2004, the Ministry of Health began a Small Water Systems Review Project.[120] This project had the goal of managing and addressing the unique needs of small systems and developing recommendations that would allow these systems greater flexibility, while still protecting public health.

The project was designed to examine and advise the ministry on the following:

- the specific challenges currently facing various types of small systems;
- the challenges likely to face these systems as a result of the new legislative and regulatory requirements; and
- strategic options that should be considered to assist small systems in meeting the public health protection objectives of the *DWPA*.

[120] The ministry could not pinpoint the exact date on which this project began.

Although some findings and recommendations were actioned in 2004 and early 2005, a number remain unaddressed. We asked the ministry to advise us of the status of those recommendations. The ministry advised that in January 2008, a small systems working group was established. The working group's terms of reference included the following:

> The purpose of the Small Water Systems Working Group is to develop a coordinated provincial Small Water Systems Strategy. The Strategy will consist of a report with an implementation plan that builds on the recommendations of the various recent reports related to small systems, drinking water quality and system sustainability in an integrated, coordinated and forward-looking manner.
>
> The Working Group will develop the Strategy by March 2008 latest.

According to a Ministry of Health official, as of March 27, 2008, the Ministries of Health, Environment and Community Services planned to meet again, "to develop a project plan in the coming months."

Ombudsman Finding

F33 The Ministry of Health's Small Water Systems Working Group did not meet the timeline it imposed to develop a coordinated, provincial small systems strategy, which includes a report and implementation plan.

Ombudsman Recommendation

R33 The Ministry of Health's Small Water Systems Working Group develop a coordinated, provincial small systems strategy, report and implementation plan, and report publicly on this, by January 1, 2010.

Conclusion

Approximately 90 per cent of the water systems in B.C. are small. While these systems number in the thousands, altogether they provide drinking water to only about 10 per cent of the province's population. Yet it is also these systems that are under the vast majority of current boil water or water quality advisories. The reality for the health authorities is that limited resources translate into limited regulation and monitoring of these systems.

Health authorities acknowledge that the higher safety standards and scrutiny contained in and required by the *DWPA* have made it harder for small systems to attain or maintain compliance. In recognition of this, drinking water officers are authorized to exempt small systems from certain parts of the Act and its regulations. There have also been recent developments which have gone a long way toward helping small systems achieve compliance with the Act. An example is the Sustainable Infrastructure Society's development

of an affordable group liability insurance program for community water suppliers in B.C.[121] Health authorities and the Ministries of Health and Environment should continue to assist small systems in their efforts to comply with the new legislation.

The government's challenge in dealing effectively with small systems is to achieve a balance between acknowledging the obstacles these systems face in complying with the legislation while ensuring that there is adequate protection for those served by these systems. Given the unique challenges faced by small systems and the finite resources available to the agencies that support and regulate them, the government's approach of reducing the number of small systems through amalgamation makes sense.

But, what about the small systems that are still being created right now? It seems illogical to allow the creation of a small system if it will likely, if not inevitably, have to amalgamate down the road. In this time of rapid development, the government should be ensuring that new small systems meet some minimum sustainability criteria before they are approved. To do otherwise, is setting up small systems to fail.

[121] For more information about the Sustainable Infrastructure Society, see http://www.sustainis.org/ as well as the *Glossary*.

One of the concerns we heard from the public during this investigation was that there is a lack of publicly available information about drinking water.[122] The following response to the drinking water questionnaire that we posted on our website illustrates this point:

> Most water quality data collected on public water supply systems is not very comprehensive and not made public. For example, why can't I go to a website and find data on every registered public water supply system in BC? I may be researching arsenic or fluoride concentrations in Public water supplies and ready access to this data could be valuable. Or I may be concerned that a pregnant woman is drinking water that may have elevated nitrate concentrations. Why can't I get this information without resorting to a freedom of information request?

As this respondent points out, currently there is no single central source of information on drinking water that is accessible to the public that consumes the water and to those supplying it. Instead, information is collected by different groups, in different manners, for different purposes. For example, the Ministry of Environment uses several databases, commonly known as the "legacy systems." These include the environmental monitoring system (EMS); the water licensing information system (WLIS); the well, aquifer and contact information system (WELLS); and the water inventory data management system (WIDM). As well, each of the regional health authorities has its own database. Some regional health authorities use a database program called HealthSpace for this purpose, while the others use a program called HedgeHog. These databases are used to collect information, including that related to water system facilities, hazard and risks ratings, and water sample testing.

Public reports on drinking water, including those by the provincial health officer, have consistently recommended the development of a comprehensive information management system.[123]

Past Efforts: The Drinking Water Information Management Project (DWIMP)

In June 2002, the provincial government approved the *Action Plan for Drinking Water in British Columbia*.[124] The Ministry of Health was responsible for leading the *Action Plan*, supported by a cross-ministry task team called the Assistant Deputy Ministers' Committee on Drinking Water. This committee, along with the Office of the Provincial Health Officer, was responsible for overseeing the Drinking Water Information Management Project (DWIMP).

The stated goal of the DWIMP was to create an information management system that would provide access to all of the important and necessary data on B.C.'s public water supply systems. According to the initial report that set out the objectives of the DWIMP, the project was intended to

- define the roles of the various parties involved in managing drinking water from source to tap;
- identify the data required to manage drinking water;
- create new relationships between the stakeholders; and
- enhance the experience of users and customers by reducing the time it will take to find information.

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[122] See the sections of this report on *Dealing with Questions, Concerns and Complaints, Public Advisories and Notices,* and *Monitoring and Enforcement.*

[123] See, for example, Office of the Provincial Health Officer, *Drinking Water Quality in British Columbia: The Public Health Perspective* (2000).

[124] Ministry of Health Services, *Action Plan for Drinking Water in British Columbia* (2002).

These objectives were needed for the provincial health officer, drinking water officers, health authorities and water suppliers to carry out the duties and reporting required of them by the *Drinking Water Protection Act (DWPA)*.[125] The plan included the creation of an online tool for reporting on water quality, one that would eventually be publicly accessible.

While according to the *Action Plan*, the Ministry of Health was responsible for overseeing the DWIMP, in practice, it was jointly managed by the Ministries of Health and Environment. However, this changed in 2006, when the Ministry of Environment took the lead on aspects of the project.

Obstacles: Creating a Core Dataset and Identifying Information Gaps

A preliminary analysis of the DWIMP was completed in 2005 and identified the following barriers to implementation:

- unresolved data inconsistencies within the drinking water stakeholder community;
- lack of data collection standards;
- information housed in multiple disparate information systems;
- lack of reliable data quality;
- missing data; and
- no mechanism to efficiently link and report on data from multiple sources.

In order to overcome these issues, the Ministry of Health proposed the creation of, and eventually developed, a core dataset. Some of the information included in this dataset was:

About Facilities

- names of the regional districts and municipalities in which they are located
- common name of facility
- facility contacts
- operator certificates

About Groundwater

- names of wells
- diameters of wells

About Treatment

- address of treatment facility
- type of disinfection used
- chemicals removed through treatment

About Monitoring

- total number of samples taken each month

[125] Office of the Provincial Health Officer, *Progress on the Action Plan for Safe Drinking Water in British Columbia* (2006), 32.

Progress on the DWIMP was stalled until February 2006, when the Ministry of Environment released a data gap analysis report. This report identified what information already existed, what would need to be created, and what would need to be done to close the gaps between the information that was already available and the legislated requirements of the *DWPA*. The analysis showed that the Ministry of Environment only had a fraction of the data required by the *DWPA* in its current databases, and that the information that did exist was incomplete.[126]

The regional health authorities also jointly commissioned an independent consultant to conduct gap analyses on their systems. These analyses showed that the health authorities did not possess the information necessary to complete the core dataset.

While the gap analyses revealed useful information, little progress was made during this time in addressing the challenges that were identified.

Current Efforts: The Drinking Water Information Initiative (DWII)

The DWIMP lost further steam in 2006 and 2007, in part due to a lack of funding. In 2007, however, a new project called the Drinking Water Information Initiative (DWII) was initiated by the ADMs' Committee on Water. The purpose of DWII was to investigate how the information obtained through DWIMP, the information held in the Ministry of Environment's "legacy systems," and the information contained in the health authorities' databases, could be combined with information which would be available in a proposed comprehensive information management system called the Environment Health/Health Protection solution (EH/HP). The EH/HP is an application that will be developed as a part of a larger health information management initiative, called the BC-Yukon Public Health Information Project ("PHIP").

On January 24, 2008, the Ministry of Health informed us that a high-level analysis and costing estimates resulting from the investigation carried out through DWII would be completed and presented to the ADMs' Committee on Water by the end of the 2007/08 fiscal year. On April 11, 2008, we were informed by the Ministry of Health that the DWII project was complete and that a report with the findings had been prepared. However at the time that the Ombudsman's office was preparing this report, the DWII report had not yet been presented to the ADMs' Committee on Water. It was to be presented in May 2008, however the ADMs' Committee on Water did not meet at that time. We were told that the committee was scheduled to consider the report in June 2008.

Health authorities will need to provide the majority of the water-related information required for PHIP. A much smaller portion will be the responsibility of the Ministry of Environment. More work needs to be done to facilitate the integration of water-related information from the various sources into the EH/HP project.

[126] These systems include the Environmental Monitoring System (EMS), the Water Licensing Information System (WLIS), the Water Rights Information System (WRIS), the Water Revenue Management System (WaRMS), the Well, Aquifer and Contact Information System (WELLS) and the Water Inventory Data Management System (WIDM).

The Future: The Environmental Health and Health Protection Application within PHIP

The EH/HP is being led by the Ministry of Health and the Office of the Provincial Health Officer. It is meant to be a comprehensive public health information database, in which water-related data would be only one component. Its integration into PHIP is dependent on provincial funding, which has now been approved.

On January 24, 2008, the Office of the Provincial Health Officer told us that PHIP remains only a concept. Issues still to be resolved included the ownership and transfer of information between the Ministry of Health and the regional health authorities. At that time, the regional health authorities had only agreed in principle to participate in the EH/HP application. The deputy provincial health officer explained:

> We only have agreement in principle by the Directors of Health Protection if we can address issues of funding for the development of the system, develop an agreed upon governance and architecture models, determine what Health Authorities incremental costs will be and agree on how that will be addressed.

On May 9, 2008, the Office of the Provincial Health Officer provided additional information indicating that at the EH/HP Advisory Committee meeting on April 29, 2008, the Ministry of Health and the regional health authorities had agreed on:

> [T]he process of the development of the governance model and some of the key principles of that model. It has also been agreed that we don't need architecture models any longer and that we will have one central system that everyone connects to.

In addition, our understanding is that the Ministry of Health will attempt to minimize any incremental cost increases that the regional health authorities might have to bear to run the application.

The implementation of the EH/HP would include an online portal that would provide some of the available drinking water information to the public and water suppliers.[127] The provincial health officer hopes, for example, that water suppliers will be able to enter data into online forms that will create instant records and which would be available to the public. This would enable tracking of complaints, boil advisories, inspections and investigations.

The EH/HP is also intended to replace the existing environmental health and health protection databases now used across the province, and would enable health care stakeholders to obtain information more quickly.

Although there has been an agreement to use one centralized information system for drinking water, ensuring that the regional health authorities transition to this new system, once it's developed, instead of continuing to use their existing databases, may still prove to be challenging, due to logistical and technical difficulties.[128]

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[127] Other types of information that PHIP would contain concern maternal-child screening, immunization, child, youth and adult health, as well as workload and resource management.

[128] Health authorities have used HealthSpace and HedgeHog for approximately five years.

Conclusion

In his report for 2003 to 2005, the provincial health officer recommended:

> The drinking water information management project needs to be completed to ensure drinking water officers and the Provincial Health Officer have ready access to all data needed to administer and report on activities under the *Drinking Water Protection Act*. These data include those needed to hold water suppliers, drinking water officers and the government accountable through public reporting.[129]

It is clear that the original objectives of DWIMP established in 2002 have yet to be achieved. There is still no single tool that ministries, agencies, suppliers and the public can use to access and manage information about drinking water.

Ombudsman Finding

F34 The Ministries of Health and Environment have not developed and implemented a comprehensive drinking water information system, despite having recognized the need for this system in 2002, within a reasonable time.

Ombudsman Recommendation

R34 The Ministry of Health ensure that a comprehensive drinking water information system which provides direct access to the provincial drinking water officer is developed, implemented and is accessible to the public by December 31, 2009.

[129] Office of the Provincial Health Officer, *Progress on the Action Plan for Safe Drinking Water in British Columbia* (2006), 35.

Dealing with Questions, Concerns and Complaints

F1 The regional health authorities do not have accessible, understandable and consistent complaints processes because they:

- do not provide adequate information to the public about how to make a complaint and the process followed once a complaint is received;
- are not guided by policy or guidelines that outline how staff will accept and respond to complaints; and
- with the exception of the Fraser Health Authority, do not consistently record and track complaints on a database or other reliable and readily accessible mechanism that can produce reports.

F2 The Ministry of Health has not provided clear guidelines with respect to the standards of information required for requests for investigations under section 29 of the *Drinking Water Protection Act*.

F3 The regional health authorities do not provide adequate information to the public about the right to request an investigation under section 29 of the *DWPA*.

F4 The regional health authorities do not have adequate procedures or systems in place to track requests for section 29 investigations.

F5 The *Drinking Water Officers' Guide* provides inadequate direction with respect to when an original decision maker should reconsider his or her own decision.

F6 There are very few decisions that are open to reconsideration or review under section 39.1.

F7 The regional health authorities do not adequately and consistently inform people about their right to request reconsideration or review of decisions under section 39.1.

Public Advisories and Notices

F8 IHA's online boil water and water quality advisory listings are not updated in a timely manner.

F9 FHA and NHA do not post water quality advisories on their websites.

F10 There is considerable inconsistency in how the regional health authorities assess when a water quality advisory is required due to turbidity.

F11 FHA, NHA, VCHA and VIHA do not have a written policy on turbidity.

F12 The Ministry of Health and the regional health authorities are aware that long-standing or recurring advisories can cause the public to become desensitized and disregard warnings about drinking water-related health risks.

F13 FHA and NHA do not have adequate procedures in place to notify people with compromised or weakened immune systems about the potential health risks associated with drinking water.

F14 Relying on the provincial health officer's longstanding advisory is not a reasonable or adequate method for regional health authorities to meet their obligations to advise people with compromised or weakened immune systems about the potential health risks associated with drinking water.

F15 IHA provides contradictory information about the groups of people that should always take precautions with their drinking water. It lists "children under 12 years of age" in some publications and "newborns" in others.

F16 The regional health authorities have not taken sufficient steps to bring systems on long-standing advisories into compliance with the *DWPA* and Regulation.

Monitoring and Enforcement

F17 Access to approved laboratories for required testing of drinking water samples is inadequate for systems in remote areas.

F18 The information systems currently used by regional health authorities to record and track water sampling information, such as substances tested for, frequency of sampling and sampling results, are inadequate.

F19 The regulated drinking water standards that B.C. uses are less comprehensive than those in force in other provinces that have adopted the *Canadian Drinking Water Quality Guidelines*. As a result, fewer routine tests are done on drinking water in British Columbia.

F20 The *Drinking Water Officers' Guide* does not provide adequate guidance to drinking water officers who are trying to determine whether water should be tested for substances in addition to total coliforms and E. coli, and if so, which substances should be tested for, and how often.

F21 IHA, NHA, VCHA and VIHA do not have adequate procedures in place to ensure that water suppliers comply with the requirement under the *DWPA* that water suppliers provide annual reports that include results of water sampling to their customers.

F22 FHA, IHA, VCHA and VIHA do not post the results of water sampling on their websites.

F23 While the regional health authorities have set inspection goals, these goals are not being met.

F24 IHA, VCHA and VIHA do not include the results of inspections on their websites.

F25 The regional health authorities do not adequately enforce the requirement under the *DWPA* for water suppliers to have emergency response and contingency plans, especially in the case of small systems.

F26 The regional health authorities are not utilizing the full range of enforcement options available to them under the *DWPA* and Regulation.

F27 FHA does not have progressive enforcement policies.

Issues Affecting Small Systems

F28 The comptroller of water rights does not have an adequate process in place to ensure that it receives timely notification of the dissolution of societies or corporations that operate water utilities.

F29 The comptroller of water rights does not have adequate systems in place that ensure water utilities file their annual reports and other required documents.

F30 The Ministry of Health has not adequately addressed the concerns raised by the Environmental Operators Certification Program and small system operators about operator training and certification.

F31 The Ministry of Health has not ensured that adequate processes are in place to enable the regional health authorities to identify and regulate all small systems.

F32 The regional health authorities are not proactively identifying small systems that fall under the *DWPA* and Regulation.

F33 The Ministry of Health's Small Water Systems Working Group did not meet the timeline it imposed to develop a coordinated, provincial small systems strategy, which includes a report and implementation plan.

Drinking Water Information Management Initiatives

F34 The Ministries of Health and Environment have not developed and implemented a comprehensive drinking water information system, despite having recognized the need for this system in 2002, within a reasonable time.

Ombudsman Recommendations

Dealing with Questions, Concerns and Complaints

R1.1 The regional health authorities, the Ministry of Health and the provincial health officer develop accessible, understandable and consistent written policies on receiving and responding to drinking water complaints and make these publicly accessible, by December 1, 2008.

R1.2 The IHA, NHA, VCHA, VIHA, Ministry of Health and the provincial health officer develop systems to electronically record and track drinking water complaints and generate reports, by June 1, 2009.

R2 The Ministry of Health provide clarification to the regional health authorities about the application of section 29 of the *DWPA*, including setting out the type of information the regional health authorities might reasonably require in order to make a decision, by September 1, 2008.

R3 The regional health authorities develop written material informing people of the right to request an investigation under section 29 of the *DWPA* and the type of information to include with a request and make this information available to the public on their websites and in printed brochures, by December 1, 2008.

R4 The regional health authorities have a system in place to electronically track requests for section 29 investigations by December 1, 2008. The regional health authorities also identify and track requests that cannot be actioned.

R5 The Ministry of Health take necessary action to ensure that reconsiderations are conducted by new decision makers, by January 1, 2010.

R6 The Ministry of Health consider expanding decisions that are open to reconsideration and review, such as decisions made under section 29.

R7 All orders issued under sections 19, 25, 26, and 31(4) be in writing and contain accurate and complete information about the right to request reconsideration and review.

Public Advisories and Notices

R8 IHA's website be updated as soon as boil water advisories or water quality advisories are issued or rescinded.

R9 FHA and NHA post water quality advisories on their websites.

R10 The Ministry of Health and the regional health authorities establish a standard for issuing turbidity advisories that is consistent across the province, by December 1, 2008.

R11 FHA, NHA, VCHA and VIHA develop a written policy on turbidity that is publicly accessible, by December 1, 2008.

R12.1 At least once a year, each regional health authority publicly report the length of time each advisory in force for more than one year within its jurisdiction has been in effect, the steps taken since its last report to remedy the underlying problems that necessitate the notice or advisory, and the corrective actions that remain outstanding.

R12.2 The regional health authorities establish a similar process for advisories that recur on a regular basis.

R13.1 The Ministry of Health, FHA and NHA establish adequate procedures to ensure that people with compromised or weakened immune systems are notified about the potential health risks associated with drinking water, by December 1, 2008.

R13.2 The provincial health officer's annual report include information about the procedures the regional health authorities have in place to notify people with compromised or weakened immune systems about the potential health risks associated with drinking water.

R14 The provincial health officer review ways of giving the general advisory more prominence, such as reissuing it on an annual basis and seeking to have it included in publications and websites that relate to the care and treatment of those with compromised or weakened immune systems.

R15 The IHA clarify which group of children should always take precautions with their drinking water.

R16 The regional health authorities commit to reducing by 10 per cent a year the current number of systems on advisories within their regions, and having no system on an advisory for more than 18 months by the end of 2011-12 fiscal year.[130]

R16.1 The Ministry of Health support the regional health authorities in achieving the goal of reducing by 10 per cent a year the current number of systems on advisories within their regions, and having no system on an advisory for more than 18 months by the end of 2011-12 fiscal year, including by considering a governance model that involves mechanisms such as point-of-entry or point-of-use treatment for individual users on water supply systems and prescribed integration of water supply systems, if required.

Monitoring and Enforcement

R17 The Ministry of Health and the provincial health officer work together to develop initiatives to support an increase in the number of approved laboratories in areas where water suppliers currently face unreasonable barriers to the cost-effective and timely transportation of water samples for bacteriological analysis, by June 1, 2009.

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[130] In order to assist the regional health authorities to commit to this recommendation, the Ombudsman has agreed that a satisfactory response includes the understanding that: any newly discovered water supply systems that have to immediately be put on a boil water advisory would not be included in the 10 per cent calculation for three years; that the total number of systems on which the 10 per cent is based will decline each year, as systems are taken off advisories; the commitment is subject to the Ministry of Health providing the necessary tools and support.

R18 The regional health authorities develop systems to track and publicly report water sampling data including the list of substances tested for, how frequently the sampling is carried out, and test results. Test results should be promptly posted on the health authorities' websites, by June 1, 2009.[131]

R19 The Ministry of Health reassess whether to adopt additional mandatory drinking water standards, by June 1, 2009.

R20 The Ministry of Health develop guidelines to assist drinking water officers to exercise their discretionary power to require sampling for substances in addition to total coliforms and E. coli.

R21 IHA, NHA, VCHA and VIHA develop systems that will allow them to monitor and track whether water suppliers have provided annual reports to their customers, and take steps to enforce compliance where necessary.

R22 FHA, IHA, VCHA and VIHA post the results of water sampling on their websites.

R23 The regional health authorities have written and publicly accessible inspection goals.

R24 IHA, VCHA and VIHA report the results of inspections on their websites.

R25 The regional health authorities enforce the requirement for water suppliers to have emergency response and contingency plans. Health authorities should retain copies of the plans and have a system in place to track the level of the compliance with the requirement for all water systems to have emergency response and contingency plans.

R26 FHA develop and follow progressive enforcement policies.

R27 The regional health authorities utilize the full range of enforcement options available to them to bring water systems into compliance with the *Drinking Water Protection Act* and Regulation.

Issues Affecting Small Systems

R28 The comptroller of water rights take practical steps to ensure that it receives timely notification of the dissolution of water utilities such as using QP LegalEze to search for water utilities that have been dissolved or that have been issued notices of intent to dissolve, by June 1, 2009.

R29.1 The comptroller of water rights have a system in place that enables it to monitor whether reporting requirements are being met by water utilities and take enforcement action when necessary, by June 1, 2009.

R29.2 The Ministry of Environment review the *Water Utility Act* and the *Utilities Commission Act* to ensure that they provide sufficient authority for the Ministry to enforce compliance with reporting requirements.

R30 The Ministry of Health take the necessary action to ensure that these concerns are addressed and that the training and certification processes interface effectively. In the alternative, the Ministry of Health assume responsibility of the training and certification process itself, by June 1, 2009.

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[131] The Ombudsman has accepted that a satisfactory response to this recommendation is a commitment to promptly post the information readily available, and then to post annual reports.

R31 The Ministry of Health ensure that adequate processes are in place to enable the regional health authorities to identify and regulate all small systems, including working with the Ministry of Environment and health authorities to ensure the timely exchange of information such as the issuance of *Certificates of Public Convenience and Necessity* and licences under the *Water Act*, by January 1, 2010.

R32 The regional health authorities proactively work to identify all small systems within their regions.

R33 The Ministry of Health's Small Water Systems Working Group develop a coordinated, provincial small systems strategy, report and implementation plan, and report publicly on this, by January 1, 2010.

Drinking Water Information Management Initiatives

R34 The Ministry of Health ensure that a comprehensive drinking water information system which provides direct access to the provincial drinking water officer is developed, implemented and is accessible to the public by December 31, 2009.

Appendix A: Glossary

BC Water & Waste Association (BCWWA)

The BCWWA is a non-profit organization that provides training to drinking water system operators throughout the province. The BCWWA keeps its members informed about industry developments and standards, and opportunities for education, training and certification.

Connection

The pipe that runs between a water main and a dwelling, campsite or premises.

Drinking Water Leadership Council (DWLC)

The DWLC consists of one representative from each of the regional health authorities, the Ministry of Health's Drinking Water Program, the provincial drinking water officer, and the Ministry of Environment. Representatives from other ministries and agencies are brought in as needed. The DWLC consults, advises and assists the Ministry of Health, the health authorities and the Office of the Provincial Health Officer with provincial drinking water issues, guidelines, policies and programs. The DWLC drafted the *Drinking Water Officers' Guide*.

Drinking Water Officer

A specialized health professional hired by a regional health authority to implement the *Drinking Water Protection Act* and regulations.

Section 3 of the Act authorizes medical health officers to appoint drinking water officers for a specific geographic area. In areas where no drinking water officer has been appointed, the medical health officer fills the role. Drinking water officers may delegate their duties to public health inspectors, environmental health officers, public health engineers and other health authority officials. In such cases, an individual will fill multiple roles at the same time. The *Drinking Water Officers' Guide* says that before delegating powers to someone else, he or she should be satisfied that the person, "has the appropriate skills, training and judgment…in relation to the matters being delegated."[132]

The minimum requirements for employment as a drinking water officer in one of B.C.'s regional health authorities are

- a bachelor's degree in a health protection discipline;
- five years of recent, related experience as a certified public health inspector or an equivalent combination of education, training and experience;
- additional technical training specific to drinking water systems and water treatment;
- certification as a public health inspector in Canada; and
- to be registered or eligible for registration with the B.C. branch of the Canadian Institute of Public Health Inspectors.

[132] Drinking Water Leadership Council, *Drinking Water Officers' Guide* (2007), 9-10.

Appendix

Drinking Water Officers' Guide

A guide developed by the Drinking Water Leadership Council to assist effective, consistent and transparent administration of the *Drinking Water Protection Act* and *Drinking Water Protection Regulation* across British Columbia. The *Guide* "is intended to provide policy and procedural guidance to public health officials who are responsible for the implementation of the Act.

E. coli

Escherichia coli: A type of fecal coliform bacteria found predominantly in feces of warm-blooded animals. Its presence in a water sample represents an immediate public health concern. Schedule A of the Regulation sets the standard for E. coli as "no detectable Escherichia coli per 100 ml."

Environmental Operators Certification Program (EOCP)

The EOCP is run by the EOCP Society, a not-for-profit organization named in the *Drinking Water Regulation* as the body responsible for classifying water supply systems and certifying drinking water system operators. The EOCP sets examinations and prescribes competency tests. It has also established a classification system for water treatment and distribution, and for wastewater collection, treatment systems and facilities.

Fecal Coliform

A subgroup of the total coliform bacteria group. The presence of fecal coliforms in a water sample should be followed up immediately. Water suppliers in B.C. are not required to monitor for fecal coliform.

Groundwater

Water found underground in the saturated zone of an aquifer. Groundwater is a source of both well water and surface water (e.g., springs).[133]

Guidelines for Canadian Drinking Water Quality

A comprehensive compilation of recommended limits for substances and conditions that affect the quality of drinking water. The guidelines were developed by the Federal-Provincial-Territorial Committee on Drinking Water and are published by Health Canada.[134]

Hazard Rating

This rating represents the relative level of hazard of a water system as determined by a drinking water officer or water system inspector. A hazard rating is ordinarily the sum total of all violations identified at an individual water system inspection. An inspector may alter the hazard rating depending on the seriousness of the noted conditions.

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[133] Office of the Provincial Health Officer, *Progress on the Action Plan for Safe Drinking Water in British Columbia* (2006),106.

[134] Health Canada, "Water Quality," <http://www.hc-sc.gc.ca/waterquality>.

Appendix

Improvement District

Improvement districts are local government bodies responsible for providing services such as water, fire protection, street lighting, drainage and garbage collection to residents. Typically an improvement district provides only one or two such services. Improvement districts may provide services to small subdivisions or to larger communities, and are usually located in rural areas. Service provision is financed by taxation or user fees. Since improvement districts are not eligible for most types of government infrastructure funding, many eventually either incorporate as municipalities or transfer their services to one nearby.

Irrigation District

Under the *Local Government Act*, irrigation districts are a type of improvement district. Historically, irrigation districts were either primarily or exclusively incorporated for the purposes of providing water for irrigation. However, with the growth of residential development, irrigation districts have increasingly been asked to provide drinking water to their customers as well.

Municipality

There are 157 municipalities scattered across B.C. Municipalities cover about one per cent of B.C. but serve approximately 87 per cent of the population and may be a village, town, district or city depending on the population.

Municipalities are governed by elected municipal councils consisting of a mayor and councillors. Municipalities operate primarily under the *Community Charter*, which enables them to provide a variety of services including government, transportation, police, fire, water treatment and supply, waste water treatment, refuse collection and disposal, recreation and culture, land use planning and regulation. Municipalities are able to generate revenue to finance operations through property tax and by charging fees for services. Municipal councils appoint one or more members to sit as municipal representatives on their respective regional board.[135]

Nephelometric Turbidity Units (NTUs)

A unit in the measurement of turbidity. Turbidity (see below) is monitored by both built-in monitoring systems at water supply intakes and by laboratory tests. Turbidity levels above one NTU prompt increased use of disinfection techniques as a safety precaution and in some cases may prompt changes to system operations in order to maintain acceptable water quality.

Regional District

Regional districts provide governance and services including water supply and distribution, sewage treatment and disposal, fire protection, street lighting, recreation facilities, regional parks, libraries, garbage disposal, land-use control and building inspection. Each of B.C.'s 27 regional districts is governed by a board, consisting of both directly elected representatives from rural areas as well as members who were elected

[135] Local Government Department, Ministry of Community Services, "Municipalities," <http://www.cserv.gov.bc.ca/lgd/pathfinder-mun.htm>.

to govern the municipalities within its boundaries. Regional districts are eligible to apply for a number of grant programs available through the province. They also have a broad range of financing options available through the Municipal Finance Authority.

Risk Rating

The purpose of the risk rating (or risk priority assessment) is to provide water inspectors with an objective way to prioritize water system inspections. The rating weighs the various factors that may affect the risk to the public, such as the number of people served by the water system, high-risk populations served by the water system, water source, adequacy of treatment, bacteriological and chemical history, emergency response plan, maintenance and operator training. The risk rating does not, however, provide an in-depth assessment of that water system.

Small Water System

Under the *Drinking Water Protection Regulation*, a small water supply system is one that serves up to 500 individuals during any 24-hour period.

Source Water

The body of water a drinking water supply comes from. Sources may be surface or groundwater.

Surface Water

The *Drinking Water Protection Regulation* defines surface water as water from a source that is open to the atmosphere, including streams, lakes, rivers, creeks and springs. The *Drinking Water Protection Regulation* requires that any drinking water that may be influenced by surface water, and is therefore at risk of being contaminated by pathogens, must be disinfected.

Sustainable Infrastructure Society (SIS)

The SIS was created as a non-profit society through the cooperative efforts of the Ministry of Health and the University of Victoria in 2005. The purpose of the society is to help build the managerial, financial and operational capacity of community water suppliers in B.C. The SIS has developed an affordable group liability insurance program for community water suppliers in British Columbia.

Total Coliforms

Total coliform bacteria includes fecal coliform bacteria (such as E. coli) and other types of coliform bacteria that are naturally found in the soil. Total coliforms do not necessarily indicate recent water contamination by fecal waste, but the presence or absence of these bacteria is used to determine whether treatment is working properly. Schedule A of the *Drinking Water Protection Regulation* sets the standard for total coliform bacteria at "No detectable total coliform bacteria per 100 ml."

Turbidity

Turbidity is the term used for describing cloudiness in water. Turbidity results when fine suspended particles of clay, silt, organic or inorganic matter, plankton, and other microscopic organisms are picked up by water as it passes through a watershed. While turbidity is usually caused by natural events such as spring runoff and melting snow, it can also result from manmade erosion. Turbidity is measured and reported in nephelometric turbidity units or NTUs (see above). It is a visual measurement of water's ability to scatter and absorb light rather than transmit it in straight lines. Levels can range from less than one NTU to more than 1,000 NTU. At five NTU water is visibly cloudy; at 25 NTU it is murky.

Water Supplier

Under the *Drinking Water Protection Act*, this is any owner of a domestic water system that supplies drinking water to anything other than a single-family residence. This can include very small systems, such as those that source water from a well or creek and supply only a single business or several residences.

Water Users' Communities

A water users' community is a public body incorporated under section 51 of the *Water Act* and to which the comptroller of water rights has issued a certificate of incorporation. Every water users' community will be given a name by the comptroller. The licensees may propose a name for consideration. Six or more different licensees may form a water users' community. Generally the benefit to licensees is the joint use of one water system to store and deliver drinking water.

Water Utility

Under the *Water Utility Act*, this is a person (including a corporation) that owns or operates equipment or facilities for the delivery of domestic water to five or more people, or to a corporation, for compensation. Developers often create private water utilities to serve the needs of residents in rural areas where water service is a condition of subdivision approval, and no one else can provide it. A water utility is not a local authority and is not eligible for government funding such as infrastructure grants. The rate that water utilities can charge for their services is regulated by the Ministry of Environment's Water Stewardship Division. The ministry allows utilities to pay for operating costs, including management fees and contributions to future replacement of infrastructure.[136]

Watershed

The entire area drained by a waterway, or that drains into a lake or reservoir. Also sometimes called a catchment basin, or catchment area.[137]

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[136] See also *Water Utility Act*, R.S.B.C. 1996, c. 485, s. 1.

[137] Office of the Provincial Health Officer, *Progress on the Action Plan for Safe Drinking Water in British Columbia*, (2006), 108.

Appendix B – Authorities and Agencies Subject to Investigation

BRITISH COLUMBIA
The Best Place on Earth

May 23, 2008 728017

Kim S. Carter
Ombudsman
Province of British Columbia
756 Fort Street
PO Box 9039 Stn Prov Govt
Victoria BC V8W 9A5

Dear Ms. Carter:

Thank you very much for the opportunity to review your draft report of the tentative findings and consequential Ministry of Health recommendations on drinking water safety in British Columbia.

As indicated by the Minister of Health in his letter to you dated May 9, 2008, I would also like to confirm that the Ministry of Health has reviewed the recommendations in the Ombudsman's drinking water safety report and we accept the recommendations outlined in the report. Notwithstanding the above, I would like to bring to your attention, our ongoing concern regarding recommendations 16.1 and 30 (see below).

As the Minister indicated to you, we intend to develop a single coherent response to all of your recommendations, through development of a single policy document. While the Ministry would prefer that all the timelines for the policy recommendations are aligned with the established project timelines set for the Environmental Health Public Health Information Project (EH PHIP), to provide for a coherent response to all the recommendations as a package (January 1, 2010), we are confident that the timelines suggested can be met through interim measures that will become permanent by January 1, 2010.

Specifically,

R1.1: The Ministry is prepared to develop its own written policy on receiving and responding to complaints by December 1, 2008 and to make the policy publicly available in the same timeframe.

R1.2: The Ministry is prepared to modify the CLIFF system, as an interim measure, to electronically record and track drinking water complaints and generate reports by June 1, 2009.

...2

Ministry of Health Office of the Assistant Deputy Minister 4-2, 1515 Blanshard Street Victoria BC V8W 3C8

R2: The Ministry is prepared to provide clarification to the regional health authorities around the application of section 29 of the Drinking Water Protection Act by September 1, 2008.

R5: The Ministry is prepared to take necessary action to ensure that reconsiderations are conducted by new decision makers, by January 1, 2010.

R6: The Ministry is prepared to consider expanding decisions that are open to reconsideration and review such as decisions made under section 29 of the Drinking Water Protection Act.

R10: The Ministry is prepared to work with the regional health authorities to establish a standard process and considerations for issuing turbidity advisories by December 1, 2008. However, if consensus can not be reached in that timeframe, the Minister will consider a Ministerial Directive setting out the process and considerations.

R13.1: The Ministry will establish adequate procedures to ensure that people with compromised or weakened immune systems are notified about the potential health risks associated with drinking water by December 1, 2008.

R16.1: The Ministry supports this recommendation, in principal, and appreciates the inclusion of mechanisms that will be needed to address boil water advisories. The Ministry, however, is concerned that resolution of this important issue may require longer timeframes than proposed, given that these are primarily small, rural and isolated water systems and significant consultation and legislative changes might be required. As such, while we remain committed to the objectives of this recommendation, the timelines associated with it may not be achievable.

R17: The Ministry is prepared to work with the Provincial Health Officer to develop initiatives to support an increase in the number of approved laboratories in areas where water suppliers currently face unreasonable barriers to the cost-effective and timely transportation of water samples for bacteriological analysis by June 1, 2009.

R19: The Ministry will reassess whether to adopt additional mandatory drinking water standards by June 1, 2009.

R20: The Ministry will develop guidelines to assist Drinking Water Officers exercise their discretionary powers to require sampling for substances in addition to total coliforms and E.coli.

R30: The Ministry, by June 1, 2009, will take necessary action to ensure that these concerns are addressed and that the training and certification processes interface effectively. In the alternative, the Ministry will consider assuming responsibility of the training and certification process itself.

R31: The Ministry will ensure that procedures are in place to enable the health authorities to identify and regulate small systems by January 1, 2010.

R33: The Ministry's Small Water Systems Working Group will develop a coordinated, provincial small systems strategy, report and implementation plan, and report publicly on this by January 1, 2010.

R34: The Ministry will ensure that a comprehensive drinking water information system which provides direct access to the Provincial Health Officer is developed, implemented and is accessible to the public by December 31, 2009.

We note, the recommendation now includes reference to accessibility by the Provincial Health Officer. For clarification, this is not a concern given that within PHIP governance, the Provincial Health Officer is involved and thus the Provincial Health Officer and the Provincial Drinking Water Officer will have access to the data base.

There is also mention of public accessibility, and this was contained within the original recommendation. The public will have access as appropriate, as per the recommendation on reporting on complaints etc; as per our R1.2 response, the CLIFF system will be used in the interim, after which, PHIP will provide this function. I can envision other public reporting on drinking water, through PHIP but the recommendation gives us the latitude to develop as we see it.

Thank you again for taking the time to meet and consideration of our issues.

Yours sincerely,

Andrew Hazlewood
Assistant Deputy Minister
Population Health and Wellness

BRITISH COLUMBIA
The Best Place on Earth

725937

May 13, 2008

Ms. Kim S. Carter
Ombudsman
Province of British Columbia
PO Box 9039, STN PROV GOVT
Victoria BC V8W 9A5

Dear Ms. Carter:

Re: Response to Ombudsman Recommendations

Thank you for the opportunity to review and comment on your draft report related to administration of the *Drinking Water Protection Act*.

I am responding to the recommendations contained in the report that pertain to my office.

A detailed response to the individual recommendations is attached. Additional comments on material in the draft report has been forwarded to Carly Hyman in your office.

Yours truly,

P.R.W. Kendall
OBC, MBBS, MSc, FRCPC
Provincial Health Officer

Attachment

Ministry of Health
Office of the
Provincial Health Officer
4-2, 1515 Blanshard Street
Victoria BC V8W 3C8
Tel: (250) 952-1330
Fax: (250) 952-1362

Detailed response to recommendations directed at the Provincial health officer in the April 25, 2008 draft report.

Recommendation 1.1

The Office of the Provincial Health Officer will formalize, in writing, the existing procedures for responding to complaints. To improve transparency, these procedures and the various avenues of making a complaint will be posted on the internet.

Recommendation 1.2

An electronic system for tracking complaints will be developed and complaints reported on in future reports made pursuant to section 4.1 of the *Drinking Water Protection Act*. An interim tracking system will be in place prior to June 2009, and will be replaced upon completion of the B.C. – Yukon Public Health Information Project.

Recommendation 13.2

Annual reports on activities under the *Drinking Water Protection Act* will include information on procedures in place to notify people with compromised or weakened immune systems about the potential health risks associated with drinking water.

Recommendation 14

The general drinking water advisory for people with compromised immune systems will be evaluated and efforts made to give it more prominence. These efforts will involve working with medical health officers to ensure local profile and outreach to physicians who treat immune compromised patients and other vulnerable populations to ensure they are aware of the need to discuss risk associated with drinking water directly with their patients.

Recommendation 17

The Office of the Provincial Health Officer will continue to work towards developing initiatives to support an increase in the number of approved laboratories for microbiological analysis under the *Drinking Water Protection Act*. The lead role for this work will be the Ministry of Health, with the Office of the Provincial Health Officer providing support to promote expanded laboratory capacity through our role as an approving authority and as an advocate for improved public health services within the Province.

Appendix B – Authority's response to draft report

BRITISH COLUMBIA
The Best Place on Earth

Reference: 98618

MAY 2 7 2008

Kim Carter
Office of the Ombudsman
756 Fort St
PO Box 9039 Stn Prov Govt
Victoria BC V8W 9A5

Dear Ms. Carter:

Thank you for your letters of May 6th and May 12, 2008 regarding finalizing your findings and recommendations, including timeframes for implementation, resulting from your investigation of drinking water issues in British Columbia.

I am pleased to see that the proposals discussed with the office of the Comptroller of Water Rights will achieve the goals and intent of your findings and recommendations.

This letter is to confirm this Ministry's acceptance of your final findings and recommendations related to the role of the Comptroller of Water Rights in the regulation of private water utilities.

Ministry staff will contact you at a later date to schedule a meeting.

Sincerely,

Barry Penner
Minister

pc: Joan Hesketh, Deputy Minister, Ministry of Environment
Pieter Bekker, Deputy Comptroller of Water Rights

Ministry of Environment
Office of the Minister
Mailing Address: Parliament Buildings Victoria BC V8V 1X4
Telephone: 250 387-1187
Facsimile: 250 387-1356

Appendix

fraserhealth Better health. Best in health care.

May 12, 2008

Ms. Kim S. Carter
756 Fort Street
PO Box 9039 Stn Prov Govt
Victoria, BC V8W 9A5

Dear Ms. Carter:

RE: Draft Report on Drinking Water Report. Your file number 07-81818

Dr. Nigel Murray has asked me to respond to your letter of April 25, 2008.

Thank you for your comprehensive report and recommendations. Thank you also for the opportunity to review, clarify and discuss Fraser Health's initial response to the Report findings and recommendations during a conference call on May 9.

Attached is our final response to the findings and recommendations specific to Fraser Health and to those you have made for all Health Authorities, and would appreciate if you could append our response to your report.

We appreciate the acknowledgement that "FHA's Drinking Water Program Sets an Example" with respect to our public annual reporting.

Sincerely,

Roland Guasparini, MD, MHSc, FRCPC
Chief Medical Health Officer

cc: Dr. Nigel Murray, Fraser Health President and CEO

Attachment

Chief Medical Health Officer
Fraser Health

C200 – 9801 King George Highway
Surrey BC V3T 5H5
Canada

Tel (604) 587-7620
Fax (604) 587-7625
www.fraserhealth.ca

Appendix 3

fraserhealth

Fraser Health Authority' response to the
Recommendations of the Ombudsman's Drinking Water Report

Questions, Concerns and Complaints

R1: FHA accepts the report recommendation. FHA will develop a Complaint Response System taking into consideration the principles outlined in the Report. In addition, FHA will improve our web page design to allow for easier public access to the Drinking Water information.

Section 29 Request for Investigation

R3: FHA accepts the report recommendation. As noted under R1, the Complaint Response System will include information materials for the public on the right to request a Section 29 investigation and improved public access to the FHA Drinking Water web page. In addition to the 'FHA Investigation Assessment Questionnaire for private water supplies', FHA will also develop an Investigation Assessment Questionnaire for public water systems.

R4: FHA accepts the report recommendation. While FHA currently tracks all drinking water complaints electronically, FHA will modify the current database to capture Requests for Section 29 investigation separately.

R7: FHA accepts the report recommendation. FHA will modify our letter template to accurately reference Section 39.1 of the DWPA.

Notices and Advisories

R9: FHA accepts the report recommendation. While FHA currently posts boil water advisories on our website, FHA will post other water quality advisories on our website either by creating a link to the water supplier's website or upon receiving the water quality advisory from the water supplier.

Turbidity and Advisories

R10: According to the Ministerial Technical Advisory Committee' Report on Turbidity and Microbial Risk dated March 12, 2008, it is neither appropriate nor feasible to establish a numerical standard for issuing turbidity advisories either for all water systems or classes of water systems. FHA is committed to working with the MOH and other HAs to develop a standard process in BC for determining when a water quality advisory is required due to turbidity, within 6 months, by December 1, 2008.

R11: see R10. In the absence of a standard process in BC, FHA will continue to be guided by Health Canada's October 2003 'Guidelines for Canadian Drinking Water Quality: Supporting Documentation – Turbidity' and the Ministerial Technical Advisory Committee' Report on Turbidity and Microbial Risk dated March 12, 2008 when determining when a water quality advisory is required due to turbidity. FHA will post its policy on turbidity on the Health Protection website, within 6 months, by December 1, 2008.

Message Fatigue

R12.1 FHA accepts the report recommendation. While FHA currently publishes this information in our Drinking Water Program Annual Report, FHA will enhance the existing table information on boil water advisories and create a new table for other drinking water quality advisories.

R12.2 see R12.1.

fraserhealth

Notification to people with compromised immune systems

R13.1: FHA accepts the report recommendation. FHA will work with the PHO's Office, other HAs, and Water Suppliers to develop a consistent process to regularly inform persons with compromised or weakened immune system.

Reducing Boil Water Advisories

R16: FHA has reduced the number of water systems on boil water advisories by 30% in 2007/2008 and is targeting a further 10% annual reduction. FHA is committed to having no water system on boil water advisories for more than 18 months by 2011-2012, on the condition that these water systems have access to financial support and tools from the province.

Monitoring and Enforcement

R18: FHA accepts the report recommendation as follows:

- FHA will post results of water samples obtained by FHA staff for auditing purposes on the Health Protection web site;
- FHA will post results of water samples taken by water suppliers for compliance purposes on the Health Protection web site either by posting a copy of the water supplier's annual report or creating a web link to the water supplier's annual report.

R22: see R18.

Inspections

R23: FHA currently publishes the inspection objective and results in the Drinking Water Program Annual Report. FHA will improve our web page design to allow for easier public access to Drinking Water information.

Enforcement and Remedial Action

R25: FHA has a system to track compliance of Emergency Response and Contingency Plans and has achieved a compliance rate of 91% in 2007/2008.

R26: FHA accepts the report recommendation. A Progressive Enforcement Guideline has been drafted and is under review.

R27: see R26

Small Water Systems

R32: FHA accepts the report recommendation as follows:

- FHA will work with the Inter-agencies Regional Drinking Water Team (representatives from all ministries with an interest on Drinking Water and local government) to ensure a referral process is in place to identify existing and new small water systems.
- FHA will publish information on our web site explaining the definition of a water system and the process to obtain an operating permit;
- FHA will publish information on our web site and local media for the public to inform us of the presence of a potential small water system.

Appendix

Interior Health

May 15, 2008

Kim S. Carter, Ombudsman
Province of British Columbia
756 Fort Street
PO Box 9039 Stn. Prov Govt
Victoria, BC V8W 9A5

Dear Ms. Carter:

Re: Drinking Water Investigation

Thank you for the opportunity to respond to your recommendations that directly impact the Interior Health Drinking Water Program.

We have over 1800 water supply systems listed in our database, almost half of the water systems identified in the province. In addition, we have more moderate and high risk water supply systems than the other Health Authorities *combined*, and more population on public notification than other Health Authorities *combined*, more water supply systems with public notifications. The latest numbers published show Interior Health with 352 public notifications of 530 total in the province. The majority of BC waterborne illness outbreaks documented in the past 25 years have occurred in the area that is now encompassed by Interior Health. For this reason we take recommendations of your report extremely seriously.

We believe passionately in the principles of autonomy, justice and administrative fairness. We have also been dedicated to promoting multiple barriers of drinking water protection and the difficult processes of improving the treatment processes that we know to protect public health. We established clear objectives for water suppliers in the form of "43210" which reflect the Canadian Drinking Water Quality Guidelines. We have been giving fair notice to water suppliers that they must plan to meet the objectives recognizing that it is fair to allow for adequate time to raise finances and garner public support. We are providing surveillance and monitoring of water suppliers, administering and enforcing the DWPA, the Drinking Water Protection Regulation and the Health Act in a manner which attempts to achieve the greatest health risk reductions given current resource and regulatory constraints.

Bus: (250) 851-7338 **Fax:** (250) 851-7339
Email: elizabeth.sigalet@interiorhealth.ca
Web: interiorhealth.ca

HEALTH PROTECTION
Less Risk ~ Better Health

Public Health
519 Columbia Street
Kamloops, BC V2C 2T8

It is clear that to comply with the recommendations there will need to be significant reallocation of resources and revision of priorities within our own organization. More importantly there will need to be resources made available to water suppliers of all types to deal with the infrastructure deficiencies that are known to exist. Success is also more likely if there are changes that would reduce the number of systems, limit new systems, shift governance to public bodies, be explicit on water quality expectations, facilitate the access to infrastructure financial support for all water systems, and ensure adequate engineering consultants and construction companies to undertake the work in the allotted time.

The Interior Health Drinking Water Program will act to the best of our abilities on the Ombudsman's recommendations as outlined in the accompanying document.

Yours truly,

Elizabeth Sigalet
Assistant Director Health Protection (Drinking Water)

ES/ljb
cc:
Att.

Summary of Tentative Findings and Consequential Recommendations	Accept Recommend-ations	Interior Health's Steps to Achieve Recommendations
F1 ...health authorities...do not have accessible, understandable and consistent complaints processes because they: • do not provide adequate information to the public about how to make a complaint and the process followed once a complaint is made; • are not guided by policy or guidelines that outline how staff will accept and respond to complaints; and • are not recorded and tracked on a database or other reliable and readily accessible mechanism.		
R1.1...health authorities...develop accessible, understandable and consistent written policies on receiving and responding to drinking water complaints and make these publicly accessible (within 6 months, by December 1, 2008).	Yes	Interior Health has just completed an intake form for general Health Protection complaints. It can be used as a basis for drinking water complaints. Policy for receiving and responding specifically to drinking water complaints and a method of posting them will be developed.
R1.2...health authorities...develop systems to electronically record and track drinking water complaints and generate reports (within one year, by June 1, 2009).	Yes	It would be our preference to include the development of an electronic record with the development of the Public Health Information Program (PHIP). We are currently committed to participating in this provincial and national process. As an interim step we will develop a system to electronically record and track drinking water complaints, and generate reports by June 1, 2009.

Summary of Tentative Findings and Consequential Recommendations	Accept Recommend-ations	Interior Health's Steps to Achieve Recommendations
F3...health authorities do not provide adequate information to the public about the right to request an investigation under Section 29 of the DWPA. **R3**...health authorities develop written material informing people of the right to request an investigation under Section 29 of the DWPA and the type of information to include with a request and make this information available to the public on their websites and in printed brochures (within 6 months, by December 1, 2008).	Yes	We have written information already prepared and available to the public although not in an easily identified web location or in brochure format. IH will develop the required policy and materials, and update the Interior Health website, We support investigations under Section 29 of the DWPA. However we are concerned about the possibility of creating an expectation that the Drinking Water Protection Act can be used as a method of challenging land use conflicts such as logging, mining and recreational vehicle use, or as a way of avoiding necessary water treatment.
F4...health authorities do not have adequate procedures or systems in place to track requests for Section 29 investigations. **R4**...health authorities have a system in place to electronically track requests for Section 29 investigations by December 1, 2008. ...health authorities also identify and track areas requests that cannot be actioned.	Yes	Requests will be collected through the Source Protection Officer and we will develop a system to electronically record and track these requests by December 1, 2008

Summary of Tentative Findings and Consequential Recommendations	Accept Recommend-ations	Interior Health's Steps to Achieve Recommendations
F7...health authorities do not adequately and consistently inform people about their right to request reconsideration or review of decisions under Section 39.1. **R7** All orders issued under Sections 19, 25, 26, & 31(4) be in writing and contain accurate and complete information about the right to request reconsideration and review.	Yes	We agree that all orders issued under Sections 19, 25, 26, and 31(4) should be in writing and contain accurate and complete information about the right to request reconsideration and review. We will develop written policy to this effect.
F8 IHA's online boil water and water quality advisory listings are not updated in a timely manner. **R8** IHA's website be updated as soon as boil water advisories or water quality advisories are issued or rescinded.	Yes	Under the Drinking Water Protection Act, the responsibility for notifying the public regarding drinking water threats rests with water suppliers. As a convenience to the public, Interior Health has provided a quarterly update of advisories that we have in our database on our website. We have clear statements about how often the information is updated. It would be our preference to include the development of web based public notification reporting process with the development of the Public Health Information Program (PHIP). We will modify our current method of web posting as an interim measure to a monthly frequency and investigate our software capability of real time updates.

Summary of Tentative Findings and Consequential Recommendations	Accept Recommend-ations	Interior Health's Steps to Achieve Recommendations
F10 There is considerable in-consistency in how ...health authorities assess when a water quality advisory is required due to turbidity. **R10** ...health authorities establish a standard for issuing turbidity advisories that is consistent across the province (within 6 months, December 1, 2008).	Yes	We have already committed to modifying our detailed and well developed Turbidity Education and Notification campaign. We applaud the Ombudsman's recognition that turbidity notification should be linked to the Canadian Drinking Water Quality Guidelines. We will work with the Drinking Water Leadership Council and will accept provincial direction with respect to appropriate consistency requirements.
F12...health authorities are aware that long-standing or recurring advisories can cause the public to become desensitized and disregard warnings about drinking water-related health risks. **R12.1** At least once a year,...health authority publicly report the length of time each advisory in force for more than 1 year within its jurisdiction has been in effect, the steps taken since its last report to remedy the underlying problems that necessitate the notice or advisory, and the corrective actions that remain outstanding. **R12.2**...health authorities establish a similar process for advisories that recur on a regular basis.	Yes	As an interim step, our web based water quality advisories provide the dates that the advisories were initiated, and instructions to contact water suppliers for further information. It would be our preference to include the development of web based public notification reporting process with the development of the Public Health Information Program (PHIP). We are currently committed to participating in this provincial and national process. If PHIP is not in place within this timeframe, or does not include this information, IH is committed to implementing this recommendation on its own.

Summary of Tentative Findings and Consequential Recommendations	Accept Recommend-ations	Interior Health's Steps to Achieve Recommendations
F14 Relying on the PHO's longstanding advisory is not a reasonable or adequate method for ...health authorities to meet their obligations to advise people with compromised or weakened immune systems about the potential health risks associated with drinking water.		
F15 IHA provides contradictory information about the groups of people that should always take precautions with their drinking water. It lists "children under 12 years of age" in some publications and "newborns" in others. **R15** The IHA clarify which group of children should always take precautions with their drinking water.	Yes	We agree with this recommendation and have already committed to clarification of precautions that should be taken to protect children during water quality advisories. We will work with our counterparts in the Drinking Water Leadership Council and will accept provincial direction with respect to appropriate consistency requirements.

Summary of Tentative Findings and Consequential Recommendations	Accept Recommend-ations	Interior Health's Steps to Achieve Recommendations
F16...health authorities have not taken sufficient steps to bring systems on long-standing advisories into compliance with the DWPA and regulation. **R16**...health authorities commit to reducing by 10% a year the current number of systems on advisories within their regions, and having no system on an advisory for more than 18 months by the end of 2011-12 fiscal year.	Yes	We agree that it is desirable to take steps to bring systems on long-standing advisories into compliance with the DWPA and regulation. We submit that the reason for long-standing advisories is the usually the result of inadequate water treatment infrastructure. To date, IH has taken the approach of prioritizing our enforcement actions based on health based risk assessments which include length of time on advisory as one of the components of risk. This approach is recommended in the Minister's Drinking Water Officers Guide and it has allowed us to focus our efforts on water supply systems with advisories that affect the greatest number of people. In order to comply with this recommendation, we will revise our approach to priority setting and the rapidity of progression through the enforcement continuum. The success of reducing the number of systems on advisories within Interior Health will depend on infrastructure funding available to small systems, provincial leadership for small systems to address governance deficiencies, and local and provincial political will to improve drinking water quality. This will also require significant resource re-allocation and adjustment of priorities within IH. See also response to recommendation 27

Summary of Tentative Findings and Consequential Recommendations	Accept Recommend-ations	Interior Health's Steps to Achieve Recommendations
F18 The information systems currently used by…health authorities to record and track water sampling information, such as substances tested for, frequency of sampling and sampling results, are inadequate. **R18**…health authorities develop systems to track and publicly report water sampling data including the list of substances tested for, how frequently the sampling is carried out, and test results. Test results should be promptly posted on …health authorities' websites (within one year, by June 1, 2009).	Yes	Under the Drinking Water Protection Act, the responsibility for providing consumers with water quality sampling information is that of the water suppliers. As such, to date, Interior Health has been working with water suppliers of larger systems to accept responsibility for water sampling and reporting to their consumers in annual reports. IH will undertake to 1. Post bacteriological and chemical data from IH's data base as soon as possible, but at least on an annual basis 2. Establish links to water suppliers' websites 3. Work in the longer term within existing national and provincial processes to improve web-based public posting of water sampling information This will require significant resource allocation and adjustment of priorities within IH

Summary of Tentative Findings and Consequential Recommendations	Accept Recommend-ations	Interior Health's Steps to Achieve Recommendations
F21...IHA...does not have adequate procedures in place to ensure that water suppliers comply with the requirement under the DWPA that water suppliers provide annual reports that include results of water sampling to their customers. **R21**...IHA...develop systems that will allow them to monitor and track whether water suppliers have provided annual reports to their customers, and take steps to enforce compliance where necessary.	Yes	We will revise our procedures regarding ensuring compliance with requirements around annual reports. The new procedures will include clear expectations concerning the application of progressive enforcement measures.
F22 IHA...does not post the results of water sampling on its website. **R22**...IHA...post the results of water sampling on its website	Yes	We submit the same answer as for recommendation 18.
F23 While...health authorities have set inspection goals, these goals are not being met. **R23**...health authorities have written and publicly accessible inspection goals.	Yes	We agree and have already committed to the Ministry of Health's Core Program process requiring Performance Improvement Plans (PIPs). We will post inspection goals and results on our web site when the Water Quality PIP is completed.

Summary of Tentative Findings and Consequential Recommendations	Accept Recommend-ations	Interior Health's Steps to Achieve Recommendations
F24 IHA...do not include the results of inspections on their websites **R24** IHA,...report the results of inspections on their websites.	Yes	We agree and have already committed to the Ministry of Health's Core Program process requiring Performance Improvement Plans (PIPs). We will post inspection goals and results on our web site when the Water Quality PIP is completed.
F25...health authorities do not adequately enforce the requirement under the DWPA for water suppliers to have emergency response and contingency plans, especially in the case of small systems. **R25**...health authorities enforce the requirement for water suppliers to have emergency response and contingency plans. Health authorities should retain copies of the plans and have a system in place to track the level of the compliance with the requirement for all water systems to have emergency response and contingency plans.	Yes	We will review our procedures regarding ensuring compliance with the requirements for emergency response plans. The revised procedures will include clear expectations concerning the application of progressive enforcement measures.
F26...health authorities are not utilizing the full range of enforcement options available to them under the DWPA and Regulation. **R27**...health authorities utilize the full range of enforcement options available to them to bring water systems into compliance with the Drinking Water Protection Act and Regulation.	Yes	We have developed a "Mandate Continuum" that looks at enforcement options, where and when they should be applied with consideration to administrative fairness. This will be used to train health protection staff, and will be incorporated into policies and procedures related to the drinking water program

OFFICE OF THE OMBUDSMAN

Summary of Tentative Findings and Consequential Recommendations	Accept Recommend-ations	Interior Health's Steps to Achieve Recommendations
F32 ...health authorities are not proactively identifying small systems that fall under the DWPA and regulation. **R32** ...health authorities proactively work to identify all small systems within their regions.	Yes	Interior Health has added more than 300 water supply systems to our data base since it was developed in 2004. We are taking steps to identify the geographic locations of all domestic water systems (including private systems that are not considered water supply systems) in conjunction with Ministry of Environment. We anticipate the identification of water supply systems in this process and will take steps to include them in our database.

APPENDIX

Appendix B

northern health

Northern Health Corporate Office
600-299 Victoria Street, Prince George, BC V2L 5B8
Telephone (250) 565-2649, Fax: (250) 565-2640, www.northernhealth.ca

May 12, 2008

Ms. Kim S. Carter
Ombudsman
PO Box 9039 STN PROV GOVT
Victoria, BC
V8W 9A5

Dear Ms. Carter:

Re: Response to the Draft Ombudsman's Report on Drinking Water

Subsequent to my previous letter and further to our discussions on May 9th, we feel that we can follow through with the recommendations as detailed in your draft report to us of April 25.

As we discussed, our agreement to Recommendation # 16 would be subject to the need for tools and support from provincial authorities to help with the systems that are on boil water advisories for over 18 months.

I would also like to reiterate my comment that a goal to reduce the number of water users on boil water advisories by a given percentage each year would be more useful from a public health perspective than would a goal to reduce the number of systems on advisories by a given percentage each year. As you know, many of the water systems in Northern BC are very small.

As a Medical Health Officer who has practiced in the North for many years, I can bear witness to the improvements in accountability, standards and monitoring that have led to the virtual disappearance of water borne diseases from our Region over the past number of years. While your final report will necessarily highlight the administrative deficiencies that you feel should be remedied, I hope it will also acknowledge the progress that has been made.

Sincerely,

David Bowering MD, MHSc
Chief Medical Health Officer
Northern Health

copy: Cathy Ulrich, President & CEO, Northern Health
Lucy Beck, Regional Director of Public Health Protection, Northern Health

Vancouver Coastal Health
Promoting wellness. Ensuring care.

Office of the Chief
Medical Health Officer

#800-601 W. Broadway
Vancouver, BC V5Z 4C2

May 8, 2008

Kim S. Carter
Ombudsman
Province of British Columbia
756 Fort Street
PO Box 9039 Stn Prov Govt
Victoria BC V8W 9A5

Dear Ms. Carter,

I am writing on behalf of Vancouver Coastal Health. Thank you for the opportunity to respond to the findings and recommendations in your draft report on drinking water in British Columbia.

Our Medical Health Officers and Drinking Water Officers are extremely committed to ensuring the provision of safe drinking water to those living, working and visiting our region. We are very pleased that you have undertaken this investigation, and believe that it will play a positive role in support of our goal of providing the highest quality drinking water possible. We therefore accept the recommendations in your report and are committed to implementing the recommendations within the timelines set out in the report.

Sincerely,

Patricia Daly MD, FCDPC
Vice-President, Public Health and Chief Medical Health Officer

cc. Ida Goodreau
Domenic Losito

VANCOUVER ISLAND health authority

May 13, 2008

Ref # 6860

Kim S. Carter
Ombudsman
Province of British Columbia
PO Box 9039 STN PROV GOVT
Victoria, BC V8W 9A5

Dear Ms. Carter:

Re: Acceptance of Ombudsman Findings and Recommendations

Thank you for your letter of April 25, 2008 regarding the results of your investigation into issues related to drinking water safety in BC and the accompanying draft of findings and recommendations relating to the Vancouver Island Health Authority (VIHA). I appreciate the opportunity to review the draft recommendations and your invitation to meet with you and your staff to discuss the draft report. I understand that VIHA's Chief Medical Health Officer, Dr. Richard Stanwick did meet with you, and that the ensuing discussions were most useful.

As requested, a detailed response to the individual findings and recommendations is attached. VIHA accepts the majority of the recommendations and will take immediate action to implement them. There are a select number of recommendations that are provisionally accepted subject to a more detailed review of resource and regulatory implications.

Once again, thank you for the opportunity to review the draft report and provide a response.

Kind regards,

Howard Waldner
President & Chief Executive Officer

Attach.

cc. Dr. Richard Stanwick, Chief Medical Health Officer, Vancouver Island Health Authority

Executive Office
located at 2101 Richmond Avenue, Victoria, B.C., Canada V8R 4R7 • Tel: (250) 370-8699 • Fax (250) 370-8750
mailing address: 1952 Bay Street, Victoria, B.C., Canada V8R 1J8
Our Vision: Healthy People, Healthy Island Communities, Seamless Service

VIHA Response to Ombudsman's Draft Report on Drinking Water Safety

Vancouver Island Health Authority
Response to BC Ombudsman's Recommendations re:
Drinking Water Safety

F1
Health authorities do not have accessible, understandable and consistent complaints processes because they:

- Do not provide adequate information to the public about how to make a complaint and the process followed once a complaint is made;
- Are not guided by policy or guidelines that outline how staff will accept and respond to complaints; and
- Are not recorded and tracked on a database or other reliable and readily accessible mechanism.

R1.1
Health authorities develop accessible, understandable and consistent written policies on receiving and responding to drinking water complaints and make these publicly accessible (within 6 months, by December 1, 2008).

VIHA Response: Accept.
Health Protection and Environmental Services (HPES) of the Vancouver Island Health Authority (VIHA) can formalize the current complaint process into a regional policy and the policy posted on the VIHA website.

R1.2
Health Authorities develop systems to electronically record and track drinking water complaints and generate reports (within one year, by June 1, 2009).

VIHA Response: Accept.
Health Protection and Environmental Services database can accommodate this information and the business rules can be incorporated in a drinking water (DW) complaint policy.

VIHA Response to Ombudsman's Draft Report on Drinking Water Safety

F3
Health authorities do not provide adequate information to the public about the right to request an investigation under Section 29 of the *Drinking Water Protection Act* (DWPA).

R3
Health authorities develop written material informing people of the right to request an investigation under Section 29 of the DWPA and the type of information to include with a request and make this information available to the public on their websites and in printed brochures (within 6 months, by December 1, 2008).

VIHA Response: Accept.
Health Protection and Environmental Services can provide the information to be posted on the website. We would respectfully suggest that the development of printed material be coordinated provincially to ensure a consistent approach.

F4
Health authorities do not have adequate procedures or systems in place to track requests for Section 29 investigations.

R4
Health authorities have a system in place to electronically track requests for Section 29 investigations by December 1, 2008. Health authorities also identify and track areas requests that cannot be actioned.

VIHA Response: Accept.
Health Protection and Environmental Services (HPES) database can accommodate this information and the business rules can be incorporated in a DW complaint policy.

VIHA Response to Ombudsman's Draft Report on Drinking Water Safety

Section 39.1

F7
Health authorities do not adequately and consistently inform people about their right to request reconsideration or review of decisions under Section 39.1.

R7
All orders issued under Sections 19, 25, 26 & 31(4) be in writing and contain accurate and complete information about the right to request reconsideration and review.

VIHA Response: Accept.
VIHA issues all orders in writing and the order template contains information about the rights to request reconsideration and review. The completeness and accuracy of VIHA's current Order template will be reviewed against the example in the Drinking Water Officer Guide.

Notices and Advisories
Turbidity and Advisories

F10
There is considerable inconsistency in how health authorities assess when a water quality advisory is required due to turbidity.

R10
Health authorities establish a standard for issuing turbidity advisories that is consistent across the province (within 6 months, December 1, 2008).

VIHA Response: Agree: The health authorities have already identified this as a need, which lead to the Ministerial Technical Advisory Committee on Turbidity and Microbial Risk. VIHA is committed to this goal and working with other stakeholders to accomplish this goal in six months. The scope of the consultation and complexity of the subject and stakeholders involved in developing Provincial policy may influence this timeline.

F11
The Vancouver Island Health Authority does not have a written policy on turbidity.

R11
The Vancouver Island Health Authority develops a written policy on turbidity that is publicly accessible (within 6 months, December 1, 2008).

VIHA Response: Accept.
VIHA is committed to this goal, however establishing a provincial standard for issuing a turbidity advisory and developing a VIHA written policy on turbidity are interdependent. The scope of the consultation and complexity of the subject and stakeholders involved in developing Provincial policy may influence VIHA's timeline. Public accessibility to the policy is assured.

VIHA Response to Ombudsman's Draft Report on Drinking Water Safety

Message Fatigue
F12
Health authorities are aware that long-standing or recurring advisories can cause the public to become desensitized and disregard warnings about drinking water-related health risks.

R12.1
At least once a year, health authority publicly report the length of time each advisory in force for more than one year within its jurisdiction has been in effect, the steps taken since its last report to remedy the underlying problems that necessitate the notice or advisory, and the corrective actions that remain outstanding.

VIHA Response: VIHA accepts the concept of addressing message fatigue. VIHA agrees that refreshing information may generate renewed interest. VIHA will commit to reporting out annually.

R12.2
Health authorities establish a similar process for advisories that recur on a regular basis.

VIHA Response: Accept.
VIHA will commit to reporting out annually.

Notification to people with compromised immune systems
F14
Relying on the Provincial Health Officer's longstanding advisory is not a reasonable or adequate method for health authorities to meet their obligations to advise people with compromised or weakened immune systems about the potential health risks associated with drinking water.

Reducing boil water advisories

VIHA Response to Ombudsman's Draft Report on Drinking Water Safety

Reducing boil water advisories
F16
Health authorities have not taken sufficient steps to bring systems on long-standing advisories into compliance with the DWPA and Regulation.

R16
Health authorities commit to reducing by 10% a year the current number of systems on advisories within their regions, and having no system on an advisory for more than 18 months by the end of 2011-12 fiscal year.

VIHA Response: The Office of the Ombudsman provided the following explanation of intent and scope of R16:

Accept with the following proviso: newly discovered water systems that are immediately placed on boil water advisories will not be included in these numbers for three years after they are identified. VIHA will commit to no water systems on boil water advisories for more than 18 months by the end of the 2011/12 fiscal year. Any water system that does not meet these conditions will be subject to a final review and it would be our intent to discuss this with the Ministry of Health on a case-by-case basis prior to exercising a cease and desist order.

Of note, in striving for further improvements, worthy of consideration in securing desired targets are the many factors involved and attention paid to the seriousness of risk and size of population at risk. Furthermore, a cautionary note on seeking compliance from some very small systems may result in their abandonment by their operators, creating an even more undesirable circumstance of no water as opposed to water that needs boiling. Tracking of issues with small systems may serve to identify systems where this phenomenon is a possibility.

VIHA Response to Ombudsman's Draft Report on Drinking Water Safety

Monitoring and Enforcement

Sampling standards

F18

The information systems currently used by health authorities to record and track water sampling information, such as substances tested for, frequency of sampling and sampling results, is inadequate.

R18

Health authorities develop systems to track and publicly report water sampling data including the list of substances tested for, how frequently the sampling is carried out, and test results. Test results should be promptly posted on the health authorities' websites (within one year, by June 1, 2009).

VIHA Response: Accept. However, we would respectfully suggest that systems be developed and coordinated on a provincial basis. This is not a legislated requirement under the DWPA and costs for this function were not calculated in Ministry of Health drinking water funding to health authorities. Significant modifications to our data system and web posting process are needed to underpin this initiative. To reflect this broader mandate, the health authority would benefit from changes to the *Drinking Water Protection Act* and Regulations to accommodate this recommendation and expanded role for VIHA Health Protection and Environmental Services.

F21

VIHA does not have adequate procedures in place to ensure that water suppliers comply with the requirement under the DWPA that water suppliers provide annual reports that include results of water sampling to their customers.

R21

VIHA develop systems that will allow them to monitor and track whether water suppliers have provided annual reports to their customers, and take steps to enforce compliance where necessary.

VIHA Response: Accept.

VIHA Response to Ombudsman's Draft Report on Drinking Water Safety

F22
VIHA does not post the results of water sampling on its website.

R22
VIHA post the results of water sampling on its website.

VIHA Response: Accept. We would respectfully suggest that the posting of results be developed and coordinated on a provincial basis.

Inspections
F23
While health authorities have set inspection goals; these goals are not being met.

R23
Health authorities have written and publicly accessible inspection goals.

VIHA Response: Accept with advising the public on the types of activities VIHA undertakes to monitor and promote compliance. Will give a range as to the frequency of inspections that will be based on different attributes of water systems. Excessive specificity about numbers and timing of inspections will be avoided to reduce operator anticipation of a site visit. An inspector ideally assesses the facilities operation in real time and circumstance.

F24
VIHA does not include the results of inspections on their websites.

R24
VIHA report the results of inspections on their website.

VIHA Response: Accept. This is already identified as a program initiative we are working toward. We would respectfully request that a standardized approach be taken across the province.

VIHA Response to Ombudsman's Draft Report on Drinking Water Safety

Enforcement and Remedial Action

F25

Health authorities do not adequately enforce the requirement under the DWPA for water suppliers to have emergency response and contingency plans, especially in the case of small systems.

R25

Health authorities enforce the requirements for water suppliers to have emergency response and contingency plans. Health authorities should retain copies of the plans and have a system in place to track the level of the compliance with the requirement for all water systems to have emergency response and contingency plans.

VIHA Response: Accept. All operators have been advised of this requirement and compliance is now tracked in HealthSpace. Retention of current copies on file has resource implications for both program and admin staff.

F26

Health authorities are not utilizing the full range of enforcement options available to them under the *Drinking Water Protection Act* and Regulations.

R27

Health authorities utilize the full range of enforcement options available to them to bring water systems into compliance with the *Drinking Water Protection Act* and Regulation.

VIHA Response: Accept. VIHA will employ all the enforcement options available appropriate to achieving the desired outcome. Suggestions on improving the current DWPA to facilitate these activities have been identified and shared with key partners.

VIHA Response to Ombudsman's Draft Report on Drinking Water Safety

Small Systems

Identifying small systems

F32

Health authorities are not proactively identifying small systems that fall under the DWPA and Regulation.

R32

Health authorities proactively work to identify all small systems within their regions.

VIHA Response: Accept. Complicating matters is the problem of the information on the location of these systems not residing with any other regulatory agencies where it can be retrieved. The objective will not be accomplished without significant additional resources both to physically seek out these systems and then to deal with bringing them into compliance.

Appendix

Drinking Water Protection Act

[SBC2001] CHAPTER 9

Section 29

Request for investigation

29 (1)If a person considers that there is a threat to their drinking water, the person may request the drinking water officer to investigate the matter.

(2) A request under subsection (1) must be in writing and must include specifics of the facts that the person considers constitute the threat.

(3) On receiving a request under subsection (1), the drinking water officer must review the request and consider whether an investigation is warranted.

(4) As applicable,

(a) if the drinking water officer decides against undertaking an investigation, the officer must advise the requesting person of this, and

(b) if the drinking water officer undertakes an investigation, the drinking water officer must advise the requesting person of the results of the investigation.

Section 39.1

Reconsiderations and reviews of drinking water officer decisions

39.1 (1) In this section, **"decision"** means a decision of a drinking water officer under

any of the following:

(a) section 19 *[drinking water officer authority in relation to assessments]*;

(b) section 25 *[hazard abatement and prevention orders]*;

(c) section 26 *[orders respecting contraventions]*;

(d) section 31 (4) *[request respecting plan initiation]*;

(e) a decision resulting from a reconsideration under subsection (3) of this section.

(2) Subject to the regulations, a person affected by a decision may

(a) request a reconsideration of the decision under subsection (3), if the person considers that there is sufficient new evidence for this purpose, or

(b) request a review of the decision under subsection (4).

(3) If a reconsideration is requested and the drinking water officer is satisfied that there is sufficient new evidence respecting the matter to justify a reconsideration, the drinking water officer may reconsider the matter and may confirm, vary or reverse the initial decision.

(4) If a review is requested,

(a) the review is to be conducted by the Provincial health officer or a medical health officer designated by the Provincial health officer,

(b) the review is to be a review based on the record,

(c) the person conducting the review may require the applicant to give notice of the review in accordance with the person's directions, and

(d) the person conducting the review may

(i) confirm, vary or reverse the initial decision, or

(ii) refer the matter back to the drinking water officer, with or without directions.

Mailing Address:

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